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STRESSORS, BURNOUT AND SENSE OF COHERENCE IN ETHEKWINI PARAMEDICS: AN EXPLORATORY STUDY.

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Abstract

The objective of this study was to assess the relationships between Sense of Coherence and Burnout (i.e. Emotional Exhaustion, Depersonalisation and Personal Accomplishment) and to investigate job-related stressors and support resources in a sample of privately employed eThekwini paramedics. A survey design was used and a convenience sample (N=56) was taken from one emergency care organisation. Biographical variables and qualitative information regarding stressors and support systems were obtained and two inventories, the Maslach Burnout Inventory-Human Services Survey and the Orientation to Life Questionnaire, were administered. Results showed a predominance of informal support systems and individual case-related stressors. There were relationships between Sense of Coherence and Burnout and a significant difference in Personal Accomplishment in the 36-40 age group was found. Regression results indicated that Depersonalisation and Sense of Coherence predicted Emotional Exhaustion and Emotional Exhaustion demonstrated a main effect on Depersonalisation. Sense of Coherence was the only variable that predicted Personal Accomplishment in the current sample of paramedics.

Preface

This study represents original work by the author and has not otherwise been submitted in any form for any degree or diploma to any University. Where use has been made of the work of others, it has been duly acknowledged in the text.

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Chapter One: Introduction and Aim of the Study

1.1 Introduction

Scarce medical and economic resources, long working hours, threat of HIV infection, personal assault, conflict between and within work departments, traumatised victims and death; these are some of the occupational stressors encountered by paramedics and ambulance drivers in South Africa on a daily basis (Castle & Owen, 2003). Emergency workers are required to cope with persistent occupational stressors that are essentially cumulative in nature (Beaton, Murphy, Johnson, Pike & Corneil, 1999). Consequently, emergency care has been identified as one of the most stressful working environments in South Africa (Naudé & Rothmann, 2003).

Occupational burnout refers to physical and Emotional Exhaustion following repeated exposure to on-the-job stress. The subjective experience of burnout is highly prevalent among professionals employed within human service settings (Heyns, Venter, Esterhyse, Bam & Odendaal, 2003). Emergency workers, as human service professionals, are exposed to numerous critical events at work, making this group highly susceptible to psychological and behavioural symptoms of burnout including emotional fatigue, social withdrawal and cynicism in response to patients.

Current research proposes a transactional model of work-related stress and it has been hypothesised that stress occurs in response to the interaction between an individual and his/her environment (Layne, Hohenshil & Singh, 2004). The severity of the stress reaction is, therefore, dependant on both the nature of the external stressor and the individual's ability to cope with the stressor.

The stress-burnout (strain)-coping framework encompasses the stressors present within occupational groups and the possible mediating effect of coping dispositions on the experience of stress which may lead to either adequate coping, on the one hand, or occupational burnout, on the other (Mak & Meuller, 2000). When effective coping resources are present, personal and professional efficacy is enhanced. Indeed, despite a high prevalence of 'burnout' and psychological morbidity within the emergency care sector, some individuals appear reasonably well adjusted and actually flourish within a highly stressful environment (Sullivan, 1989).

The hypothesis that health is dependent on the absence of stressors has been refuted by burnout-coping research and a discrete shift away from the predominant concept of pathogenesis

has been noted. Antonovsky (1979) (as cited in Strűmpfer, Gouws & Viviers, 1998) described a health-orientated, *salutogenic* (later *psychofortogenic*) paradigm to account for 'how people manage stress and stay well' (p. 458). Antonovsky's (1979) (as cited in Lustig & Strauser, 2002) core explanatory construct for the origin of health, *Sense of Coherence,* the coping construct under study in the current research, is thought to mediate one's ability to manage life events in order to engender, sustain and enhance well-being. Individuals may develop a strong Sense of Coherence when they are able to experience life events as consistent, manageable and worthy of emotional investment (Lustig & Strauser, 2002).

1.2 Motivation for the Study

With the following literature in mind, the aim of this study was to assess the stress-burnout-coping interaction within a sample of paramedics, who, due to the stressful nature of their employment, appear to be at risk of burnout. In South Africa, paramedics respond to the basic needs of society, namely those of safety, care and immediate medical intervention, and provide services to the public which are crucial and invaluable. However, job burnout, within the emergency care sector, has been associated with numerous negative physical and psychological outcomes in individual employees and has been found to have had a negative impact on the quality of services rendered. Indeed, by appealing to the paucity of theoretical burnout and coping research involving paramedics in South Africa, generally, and in KwaZulu-Natal, in particular, the current research may have implications for either burnout intervention or employee wellness within the field of South African emergency work.

1.3 Aims of the Study

The aims of the current study included the following:

- To highlight the common job-related stressors experienced by this group of paramedics;
- To assess the nature of support utilised by this group during time of stress;
- To investigate the incidence of burnout and Sense of Coherence incidence within the paramedics sample;
- To explore the relationship between the dimensions of burnout, namely Emotional Exhaustion, Depersonalisation and Personal Accomplishment, and Sense of Coherence;

- To investigate the main effects among Sense of Coherence and the dimensions of burnout;
- To investigate the relationship between burnout, Sense of Coherence and demographic variables, including gender, age, race, marital status and job experience.

1.4 Study Hypotheses

Qualitative analysis was likely to confirm that the stressors encountered by this group of paramedics are Extra-organisational, Organisational and/or Individual, in nature. In addition, it was hypothesised that the paramedics in the present study were more likely to utilise informal support networks (e.g. Spouses, Colleagues) as opposed to professional sources of support (e.g. Doctor, Counsellor/Psychologist). The following hypotheses were tested using statistical methods:

H1: There is a significant negative correlation between Sense of Coherence and the Emotional Exhaustion component of burnout;

H2: There is a significant negative correlation between Sense of Coherence and Depersonalisation;

H3: There is a significant positive correlation between Sense of Coherence and Personal Accomplishment;

H4: Sense of Coherence, Depersonalisation and Personal Accomplishment predicts Emotional Exhaustion in paramedics.

H5: Sense of Coherence, Emotional Exhaustion and Personal Accomplishment predicts Depersonalisation in paramedics.

H6: Sense of Coherence, Emotional Exhaustion and Depersonalisation predicts Personal Accomplishment in paramedics

H7: There are significant differences in the dimensions of burnout (Emotional Exhaustion, Depersonalisation and Personal Accomplishment) and Sense of Coherence between men and women.

H8: There are significant differences in the dimensions of burnout (Emotional Exhaustion, Depersonalisation and Personal Accomplishment) and Sense of Coherence between age groups.

H9: There are significant differences in the dimensions of burnout (Emotional Exhaustion, Depersonalisation and Personal Accomplishment) and Sense of Coherence between race groups.

H10: There are significant differences in the dimensions of burnout (Emotional Exhaustion, Depersonalisation and Personal Accomplishment) and Sense of coherence between marital status groups.

H11: There are significant differences in the dimensions of burnout (Emotional Exhaustion, Depersonalisation and Personal Accomplishment) between job experience groups.

1.5 Study Limitations

The methodology of the current study will be expanded upon in Chapter 4. However, from the outset, findings of the current study were considered in light of several methodological issues and limitations:

- The modest sample size (N=56) indicated that results obtained may only be representative of the current sample;
- The use of a convenience and self-selected sample for the current research may have yielded unrepresentative findings;
- Due to the anonyminity associated with the data collection, it was not possible to determine the characteristics of those participants whom did not complete the questionnaires. Chapanis (1962) noted that volunteer subjects may be atypical of the population sampled. Chapanis (1962) cautioned that the use of volunteer subjects may bias results since those who volunteer for studies differ from those who refrain from participating in terms of motivation and personality characteristics;
- The two phases of data collection were conducted; July- October 2005 and January 2007. Two separate phases may have influenced the burnout results obtained since burnout is a chronic state of emotional and physical exhaustion and during 'quiet' working periods, symptoms may not be as severe due to a decline in job-related stressors. This may have skewed self-reported measures; with particular reference to the burnout component *Exhaustion.* The converse may be evident during busy periods with heightened symptoms of burnout being reported.

- The paramedics sampled for the current study were employed at a private emergency care organisation indicating that they may have access to more and/or better quality resources (e.g. *Generalised Resistance Resources* including increased remuneration, better quality equipment and counselling) than those employed in the government sector.

1.6 Chapter Outline

Chapter One outlined the nature, aims, motivation and hypotheses for the study. In Chapter Two, relevant stress-burnout (strain)-coping literature will be presented with a view to establishing a theoretical framework for the findings obtained in Chapter Four. Chapter Three outlines the study methodology and the various techniques utilised for the analysis of data. Results are presented in Chapter Four and the findings of the current study are discussed in Chapter Five. Chapter Six will conclude the discussion and outlines the recommendations of the study.

Chapter Two: Literature Review

2.1 Introduction

Chapter Two will highlight literature relevant to the nature and aims of the current study. Literature will be presented in the stress, burnout (stain)-coping framework. In the first section, the stress construct will be reviewed, followed by a review of the current research pertaining to paramedic stress and coping. The second section covers the dimensions and domains of burnout, outlines the consequences associated with burnout and includes demographic burnout research. In addition, ecosystemic contributions to burnout will be presented. In the final coping section, various theoretical and demographic aspects of Sense of Coherence will be reviewed.

2.2. Stress

Stress is an inescapable part of daily life (Dobson, 1982). Defining stress is a difficult task, since, in popular speech, the term has become synonymous with anything having a negative effect on an individual (Hocking, 1980). However, "stress" evokes a number of common physical, behavioural, cognitive and psychological sequelae. Lyon (2000) described the physical consequences of stress which include shortness of breath, dizziness, nausea, muscle aches, heart palpitations, loss of appetite, fatigue, headaches and sleep difficulties. Behavioural indicators of stress may include crying, smoking, binge eating or drinking and trembling (Dobson, 1982). In addition, stress may compromise cognitive functioning leading to an inability to concentrate, make effective decisions, engage in problem-solving activities and complete tasks in an efficient manner (*ibid*). Stress theory has been linked to both burnout and coping research and has been defined according to several theoretical approaches.

2.2.1. Response-Orientated Models

Dobson (1982) was of the opinion that stress, despite it's negative sequalae, is as a powerful stimulant and instigator of action. According to the Yerkes-Dobson Law (1908), stress or mild anxiety can be beneficial to task performance, provided individuals are able to recognise their optimum level of arousal (Dobson, 1982). By investigating the relationship between emotional and physical arousal and task performance, it was possible to illustrate how performance is enhanced by anxiety to the point where the optimal level of arousal is attained

(Eu-Stress) (*ibid*). Should anxiety exceed the optimal level, there will be an increase in emotional and physical disturbance or Dis-stress. Seyle's (1956) General Adaptation Syndrome (as cited in Rice, 2000) outlined the major stages of physiological response to non-specific environmental stimuli. During the initial Alarm Stage, the body exhibits physiological changes in response to stimuli (Rice, 2000). During the Resistance Stage, the body adapts to the stressor and there is a dramatic reduction in the biochemical alarm reaction (*ibid*). Adaptation allows the individual and the stressor to co-exist (*ibid*). Finally, the Exhaustion Stage occurs when the physiological energy dissipates. Consequently, prolonged and heightened physiological arousal has a chronic, adverse impact on the body's circulatory, digestive and immune system (*ibid*).

2.2.2 Stimulus-Oriented Models

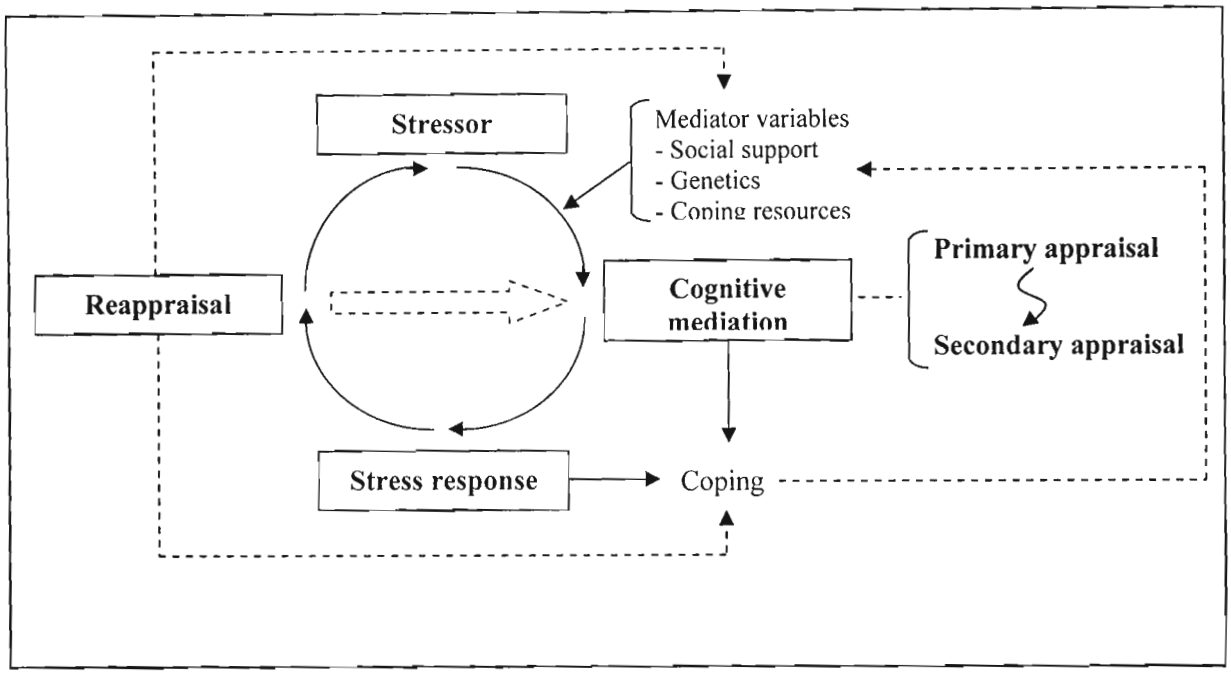
Holmes and Rahe (1967) (as cited in Lyon, 2000) hypothesised that stress was a psychological experience that occurred in response to life events. Holmes and Rahe (1967) (as cited in Lyon, 2000) developed the Social Readjustment Rating Scale (SRRS) consisting of 42 life events (e.g. divorce, loss) and estimated the average amount of physical and emotional adjustment needed in order for an individual to cope with life stressors. Stress is likely to occur when the severity of life changes are in excess of an individuals ability to cope with these life events (Dobson, 1982). The stimulus approach was based on the assumption that reactions to events are normative and that individuals are passive recipients of stress. Several researchers, including Kobasa and Antonovsky, have since found that mediating variables including *Hardiness* and Sense of Coherence may influence an individual's reaction to life events (Dobson, 1982 & Lyon, 2000).

2.2.3 Transactional Models

Lazarus' (1967) (as cited in Pines, 1984) transactional model (Figure 1.) has been highlighted as the predominant transactional model within stress theory; Lazarus was of the opinion that stress is not an isolated event, but rather a transaction between the person and their environment. Lazarus and Folkman (1984) (as cited in Pines, 1984) emphasised that an individual's appraisal of life events determine how they will respond to events. Indeed, a stressor may be severe or mild depending on how confident the individual feels he or she can cope with it (Dobson, 1982). Primary appraisal pertains to how an individual evaluates the physical and

psychological demands of a situation (Rice, 2000). This is followed by secondary appraisal, which is the process of assessing the necessary coping resources (i.e. cognitive, behavioural or psychological) required to cope with the situation (*ibid*). Finally, re-appraisal involves continually evaluating, changing or re-labelling previous primary and secondary appraisals (*ibid*). Individuals may engage in stress reduction activities that are either problem-focused (e.g. generating and evaluating other plausible options) or emotion-focused (e.g. blaming, venting emotions, seeking social support and engaging in physical exercise) (Lyon, 2000).

Figure 1. The Transactional Model of Stress



From Pleaner, B. (2005). *Stress and Coping: A Brief Handbook.* TOA Publications, p. 10

The Hassles and Uplifts Model emerged from the transactional model of stress and coping (TTSC). Lazarus (1984) (as cited in Macnee & McCabe, 2000) argued that an individual's experience of stress may represent the "day-to-day build-up of minor life demands or hassles" (p. 125). According to Lazarus, minor life events may be subjectively perceived as either potentially harmful (hassles) or favourable and positive (uplifts) (Macnee & McCabe, 2000). Evidently, individuals should take cognisance of the potentially cumulative, and therefore harmful, nature of daily hassles.

2.3 Paramedic Stress and Coping

> Ten hours, eight cases and one hoax call. A gunshot wound to the head- one attempted suicide. One stab-wound victim refusing medical assistance. One asthma attack; one epileptic fit. Three multiple RTA (Road Traffic Accidents) requiring extrication. Twenty-one patients in ten hours, three patients dead upon arrival (Castle & Owen, 2003, p.10).

Castle and Owen (2003) recount a typical shift for paramedics in KwaZulu-Natal. Emergency workers (i.e. emergency care workers/paramedics, rescue personnel and fire-fighters) are required to cope with persistent occupational demands which are unique to the field of emergency care (Beaton *et al.*, 1999). Over the past two decades, there has been an increase in awareness of the detrimental psychological impact of exposure to traumatic and dangerous events at work. Individuals need not be directly physically harmed or threatened to experience an event as traumatic, and those who are at risk of developing secondary or vicarious trauma symptoms include individuals who assist a primary victim during a time of emotional and/or physical crisis (Ortlepp & Friedman, 2001). Emergency care has been identified as one of the most physically and emotionally taxing working environments in South Africa (Naudé & Rothmann, 2003). Paramedics commonly work rotational, extended-hour shifts that may be as long as 24 hours and their working conditions are commonly characterised by a degree of physical or emotional risk (Winstanley & Whittington, 2002).

Regehr, Goldberg, Glancy and Knott (2002) noted that emergency workers commonly report post-traumatic symptoms which include traumatic flashbacks, feelings of detachment and dissociation, anger/aggression, irritability, depression and memory loss, at various stages in of their employment. These symptoms have been associated with increased absenteeism, disability claims and tardiness as symptoms often extend past the acute phase and become permanent, chronic aspects of working life (Kowalski & Vaught, 2001 & Regehr, 2005). Outside of the working domain, the stressors of emergency work have been associated with increased substance abuse, family violence, family discord, divorce and suicide within emergency work employees (Hayes, 1999 & Regher, 2005). Hammer, Matthews, Lyons and Johnson (1986) identified four common dimensions of stress which are prevalent within emergency care work;

- Organisational stress: A negative attitude about one's place of employment and co-workers;

- Job Dissatisfaction: Discontentment with one's current workload;
- Negative Attitude Towards Patients: A feeling of insensitivity towards patients' physical and emotional needs;
- Psychophysiological Distress: Symptoms of severe and/or chronic stress including fatigue, constant illness or somatic complaints and substance abuse.

2.3.1 Paramedic Stressors

Stressors associated with the emergency work in South Africa have been identified:

2.3.1.1 Extra-organisational stressors. According to Sparrius (1992) (as cited in Naudé & Rothmann, 2003), emergency workers in South Africa complained of insufficient remuneration and an absence of occupational status despite the necessity of their skills and the risk associated with their work. Consequently, this may lead to a negative sense of self-worth as an employee (Naudé & Rothmann, 2003). The current plight of South Africa's shortage of trained professionals was highlighted with specific reference to emergency workers who may feel that there is a lack of suitably qualified individuals within the field of emergency work (*ibid*).

2.3.1.2 Organisational stressors. Organisational stressors commonly manifest in a negative attitude towards the one's place of employment and co-workers (Hammer *et al.*, 1986). Within the field of emergency work, organisational stressors included managerial favouritism and the experience of emergency care organisations as paramilitary (Naudé & Rothmann, 2003). In addition, emergency workers identified conflict between and within departments as impacting on communication between employees (*ibid*).

2.3.1.3 Individual stressors. Individual stressors encompass those aspects of the job which may or may not form part of an employee's job description. South African emergency workers identified numerous individual job stressors including heightened and emotional interaction with patients, exposure to the dead or dying patients, fluctuating work demands (i.e. intermittent slow and busy shifts), prolonged shifts, physical danger, task uncertainty, actual or anticipated physical assault and verbal abuse (i.e. sexist and racist remarks made by patients or bystanders), threat of HIV infection, excessive travelling, lack of essential work equipment and time-consuming administrative work (Naudé & Rothmann, 2003; 2006 & Reghr, 2005). Other individual stressors of an interpersonal nature included 'clashing personalities' and pettiness among colleagues within emergency care organisations (Naudé & Rothmann, 2003).

Naudé and Rothmann (2003), in a study of occupational stress within a sample of Gauteng emergency workers (N=405) found that the following stressors, as rated on the Emergency Worker Stress Inventory (EWSI), were experienced in terms of highest severity; insufficient personnel to handle large workloads, unnecessary call-outs, abuse by the public and/or dealing difficult customers or patients, inadequate remuneration, lack of specialised staff, poor motivation among co-workers, exposure to dangerous on the job situations, lack of recognition lack of opportunities for job enhancement. Other aspects of the job that were experienced as very stressful included budgetary constraints, lack of support from senior staff or supervisors and the public's negative attitudes towards emergency services (Naudé & Rothmann, 2003). Conversely, emergency workers reported the lowest levels of stress in relation to conflicts with other departments/health care services and difficulty interacting with supervisors (*ibid*).

2.3.1.4 Additional stressors. There are additional antecedents of occupational stress associated with emergency work. Role ambiguity and role conflict were cited as major additional stressors (Naudé & Rothmann, 2003 & Posner & Randolph, 1980). Role ambiguity refers to a poor definition of the job, where the information necessary to perform the job is lacking, incomplete or unavailable (Wilkerson & Bellini, 2006). When a role conflict exits, employees often perform numerous, often-conflicting tasks or jobs. Role ambiguity and role conflict may be evident within the field of emergency work since emergency workers are often the first to arrive at a scene and may have to diffuse a potentially violent situation thereby assuming an authoritative role. They are, at times, required to inform the patients' families or significant other's of death or serious injury to patients, thereby assuming the role of emergency care physicians. Additionally, paramedics provide informal crisis management for patients and their families at a scene (i.e. performing the role of a counsellor). The above-mentioned instances of role ambiguity and role conflict implies that paramedics are required to manage additional aspects of their job that they may not have been adequately trained for which may lead to feelings of distress, helplessness and incompetence as an employee. Based on prior research, it is likely that participants in the current study will experience individual, organisational and extra-organisational stressors.

2.3.2 Paramedic Coping

Beaton *et al.* (1999) investigated coping styles within emergency worker groups. They argued that although this specific occupational group appeared to possess extraordinary coping capabilities, emergency workers were a self-selected occupational group and may not be representative of the general population in terms of personality type and innate coping resources (Beaton *et al.*, 1999). Indeed, those who posses innate coping abilities may, consciously or unconsciously, seek out a highly stressful occupation. With reference to additional coping trends, Hytten and Hasle (1989) (as cited in Beaton *et al.*, 1999) found that an increased number of years experience within the profession may contribute to the development of more effective cognitive and behavioural coping strategies allowing more experienced emergency workers to cope with the ongoing effects of occupational stress.

Paramedics use social support as a means of coping with stressors associated with the job (Lowery & Stokes, 2005 & Regehr, 2005). Pines (1984) found that individuals whom have a readily available support system are less likely to burn out and Pines (1984) defined social support as "information that leads individuals to believe that they are loved and cared for, esteemed and valued" (p. 156). Support may be emotional or instrumental, involving tangible assistance with work tasks (Jenkins & Elliot, 2004). Relatives, friends and work colleagues are important social resources (Klarreich, 1998). 'Underground' communication systems occur when some workers or colleagues gather to discuss matters in private but most support networks are legitimate discussion forums which allow employees to voice their opinions and grievances (*ibid*). According to Pines and Aronson (1988) social support systems serve six basic functions:

- *Listening*: Individuals who offer social support to others are able to actively listen without giving advice or passing judgement. They make themselves available to discuss periods of frustration and instances of success (Pines, 1984).
- *Technical Support*: In order to provide social support, individuals must be able to comprehend the intricacies of the job and provide others with honest feedback concerning their actions or behaviour. Thus, colleagues are sources of technical support (*ibid*).
- *Technical Challenge*: Employees whom are comfortable and secure within a working environment run the risk of stagnation and burnout. Colleagues who are able to challenge others will encourage creativity, excitement and greater job involvement provided suggestions are delivered in a constructive manner (*ibid*).

- *Emotional Support*: A vital function of an effective support system is the provision of emotional support during stressful times. An emotional supporter may therefore, be a colleague, friend, family member or a professional (*ibid*).
- *Emotional Challenge*: The function of emotional challenge is similar to that of technical challenge; individuals who offer social support are able to challenge others and question whether they are achieving their goals. Friends and family members are likely to be providers of emotional challenge (*ibid*).
- *Sharing Social Reality*: Social reality testing is a pertinent function of social support since, in times of stress or confusion, individuals need sound, realistic advice. Individuals who share a collective social reality are able to interpret the problem and decide upon a reasonable course of action. Employees may seek advice from colleagues during times of work-related stress while social friends may offer them a more accurate a perspective concerning personal problems (*ibid*).

Beaton *et al.* (1997) investigated social support networks in a sample of firefighters and paramedics (N=253) and found that emergency workers endorsed a peer support system and that low levels of colleague support were significantly correlated with an increase in stress symptomology. Lowery and Stokes (2005) found that three factors namely job exposure, dysfunctional peer support and a negative attitude towards emotional expression, were the strongest predictors of post-traumatic symptomology in a sample of student paramedics (N= 42). Evidently, peer support may mediate the effects of stress in emergency worker groups. One of the aims, therefore, was to assess the support system available to the paramedics sampled in the current study.

Regehr (2005) found that support from family members was another commonly endorsed support network for paramedics. However, "bringing the trauma home" could have a detrimental effect on parental or spousal relationships (Regehr, 2005, p. 97). When paramedics debrief at home, family members may encounter the secondary effects of emotions associated with the paramedic work. In a study conducted with families of paramedics, there was evidence to suggest the presence vicarious traumatisation within both spouses and children of paramedics, who reported feelings of discomfort, distress and re-experiencing of events via visual imagery (Regehr, 2005).

Some emergency care organisations, particularly private organisations, refer employees to in-house or contract counselling services. Although critical incident debriefing is likely to be available to paramedics, these services are under-utilised (Hayes, 1999). Indeed, Hammer *et al.* (1986) noted an in-group out-group trend within this occupational sample; namely that since paramedics are paired or grouped for long periods of time and strong partnerships or group alliances are likely to develop. This may contribute to employee underreporting or denial of symptoms as the partnership may result in a "them versus us" attitude; aimed at the organisation, the management structures, counselling services and patients (Hammer, *et al.*, 1986, p. 539).

Chew-Graham, Rogers and Yassin (2003) investigated barriers to help-seeking within the medical profession and found that the perceived stigma associated with stress-related conditions or mental illness hindered help-seeking behaviour within a sample of medical students. The students feared that they may be perceived as weak if they were to seek help and expressed concerns about confidentiality (Chew-Graham *et al.*, 2003). Similarly, Lowery and Stokes (2005) found that there is an expectation among paramedics that they should maintain an emotional distance from the patients and display a certain emotional toughness, in order to perform their job effectively (Lowery & Stokes, 2005). Utilising excessive emotional numbing or distancing, as a maladaptive coping, strategy may prevent emotional self-disclosure and contribute to the denial of distress, somatic complaints and relationship difficulties within this occupational group (Regehr, 2005). The participants in the current study were likely to rely on the type of support systems mentioned in previous studies, namely collegial and familial/spousal support systems.

2.4 Burnout

The human services professions manage the personal, interpersonal, medical and/or educational needs of society (Pines & Aronson, 1988). This group includes those working in the medical field, nursing, teaching, the emergency care sector, counselling and social services (Gillespie & Melby, 2003). The consequences of occupational stress within the human services setting has been the focus for both South African (Heyns *et al.*, 2003; Levert, Lucas & Ortlepp, 2003; Naudé & Rothmann, 2006; Peltzer, Mashego & Mabeba, 2003 & Storm & Rothmann, 2003b) and foreign researchers (Aitken & Schloss, 1994; Beaton *et al.*, 1999; Bruce, Thomas & Yates, 2003; Castle & Owen, 2003; Escot, Artero, Gandubert, Boulenger & Ritchie, 2001;

Hammer *et al.*, 1986; Layne *et al.*, 2004 & Posner & Randolph, 1980). According to Pines and Aronson (1988), the human services professions share common characteristics that are classic antecedents for stress and burnout; namely; human services professionals perform emotionally taxing work; their work is client-centred and they, as individuals, may share common personality characteristics that made them choose human services as a career. Professional interactions are centred around the client's current need or problem (psychological, educational, social or physical) and may, therefore, be characterised by anger, embarrassment, fear or despair on behalf of the client or patient. In addition, solutions to clients' problems cannot always be attained and human services professionals are often left feeling frustrated and incompetent (Maslach & Jackson, 1986). Consequently, burnout was originally conceptualised as the *helper syndrome* (Schaufeli, 2003).

2.4.1 Maslach's Burnout

The term *burnout* originated in the mid 1970's and was used as a colloquial term to describe a state of mental exhaustion and loss of motivation (Schaufeli, 2003). The two predominant burnout theorists, Herbert Freudenberger and Christina Maslach, offered independent definitions of burnout. Freudenberger, a practising psychoanalyst, was of the opinion that the burnout syndrome was a mental disorder (Schaufeli, 2003). Christina Maslach, a social psychologist, adopted a *scientific approach* to burnout and considered the interaction between adverse interpersonal, social and organisational factors to be the possible root causes of burnout (*ibid*). Maslach and her colleagues developed a multidimensional model of the burnout phenomenon and defined burnout as "a syndrome of Emotional Exhaustion, Depersonalisation and reduced Personal Accomplishment that can occur among individuals who work with people in some capacity" (Schaufeli, 2003, p. 2). Schaufeli and Ezmann defined job burnout as the following:

> ..a persistent, negative, work-related state of mind in 'normal' individuals that is primarily characterised by exhaustion, which is accompanied by distress, a sense of reduced effectiveness, decreased motivation, and the development of dysfunctional attitudes or behaviours at work (as cited in Rothmann, Jackson & Kruger, 2003, p. 52).

Maslach and Jackson (1986) outlined the three constructs of burnout; *Emotional Exhaustion*: feelings of being emotionally overextended and/or exhausted by work; *Depersonalisation* or cynicism: impersonal and callous response towards recipients of one's service, care, treatment or instruction; *Personal Accomplishment* or Professional Efficacy: feelings of competence, productivity and achievement at work (Maslach & Jackson, 1996 & Rothmann *et al.*, 2003).

Following her extensive research into burnout and it's dimensions, Maslach (2003), noted that the Emotional Exhaustion dimension represents the basic stress response since it refers to emotional or mood disturbances and adverse physical symptoms including sleeplessness, headaches and gastro-intestinal disturbances that are common in most stress- related conditions. However, Emotional Exhaustion is a necessary but not sufficient criterion for burnout (Rothmann *et al.*, 2003). Rather, chronic exhaustion leads employees distancing themselves, both emotionally and cognitively, from their work or the recipients of their care (Maslach, 2003). Continuous and maladaptive 'distancing' may result in feelings of Depersonalisation which is a form of avoidance or denial, usually manifesting as cynical and callous attitude towards patients. Indeed, a strong relationship between Emotional Exhaustion and Depersonalisation is found to exist consistently across a wide range of occupational settings (*ibid*). The relationship between the third burnout dimension, Personal Accomplishment, and the other dimensions is more complex. Feelings of inefficacy, or a decline in Personal Accomplishment, may develop as a consequence of either Exhaustion or Depersonalisation or in parallel with both dimensions (Maslach, 2003). Maslach (2003) stated that the three burnout dimensions are related to workplace variables in different ways; Depersonalisation and Emotional Exhaustion are related to work overload and social conflicts within the workplace, whilst a decline in Personal Accomplishment tends to emerge as a result of poor job resources and inadequate remuneration (e.g. lack of information, tools or time). Overall, the relative combination of these factors may result in different burnout risk profiles for different individuals.

Maslach and Leiter (1996) and Schaufeli (2003) reported difficulties associated with conducting longitudinal burnout including downsizing and restructuring within sample organisations and general organisational change, all of which will impact on the reporting of burnout symptomology. However, in those longitudinal studies completed, they found each of the MBI-HSS subscales to be stable over three months to a year, with acceptable correlations

ranging from 0.50 to 0.82 (Maslach & Leiter, 1996). Taris, le Blanc, Schaufeli, and Schreurs (2005) further investigated the causal relationships between the three dimensions of burnout drawing on longitudinal data from two Dutch samples (N=1185) and found that burnout was, indeed, a developmental process. They provided longitudinal evidence that higher levels of Emotional Exhaustion lead to higher levels of Depersonalisation and, finally, to lower levels of Personal Accomplishment (Taris *et al.*, 2005).

Schaufeli (2003) noted important developments in burnout over the past two decades. Burnout has become an empirical topic for research and the quality of burnout research has improved due to an increase in theory-driven and longitudinal studies (Schaufeli, 2003). The introduction of the *Maslach Burnout Inventory- General Survey* (MBI-GS) and the *Maslach Burnout Inventory-Educators Survey* (MBI-ES) indicates that employees outside the human services may be at risk of developing job-related burnout and are, therefore, eligible for burnout research (*ibid*). In addition, *Job/Work Engagement* has become the positive anti-thesis for job burnout, indicating that employee well-being is viewed on a continuum (*ibid*).

2.4.2 Burnout and Stress

Despite differences in definition, it is a generally held belief that burnout is a process and not an event; a chronic stress reaction following prolonged exposure to job stress (Faber, 1983 & Rothmann *et al.*, 2003). Indeed, stress and burnout are two distinct concepts; stress could be viewed as a temporary adaptation process which may be accompanied by mental and physical symptoms while burnout is the final step in a progression of unsuccessful attempts to cope with escalating stressors (Rothmann *et al.*, 2003 & Wiese *et al.*, 2003). Individuals are likely to return to normal functioning following a stressful period while burnout is usually accompanied by a breakdown in emotional and/or occupational functioning (Wiese *et al.*, 2003).

2.4.3 Predictors of Burnout

Occupational burnout predictors are relevant within the field of emergency care since the individual employees from part of the larger organisation. Maslach, Jackson and Leiter (1996) attempted to bring conceptual order to the vast amount of burnout literature by presenting a job-person fit framework for the burnout phenomenon. Levi (1979) noted that an occupation becomes excessively stressful when there are discrepancies between the demands of the job and

an employees' capabilities and expectations of the job. Consequently, two elements should be considered namely job demands and job resources.

Job demands are those physical, psychological, social or organisational aspects of the job that require sustained physical and/or psychological effort (Naudé & Rothmann, 2003). The consequences of excessive and unmanageable job demands may be severe and are usually associated with negative physical (i.e. fatigue, insomnia, poor appetite) or psychological outcomes (i.e. depression, anxiety and burnout) (*ibid*). Job resources refer to psychological, social or organisational aspects of a profession that serve to minimise the physical or psychological consequences associated with job demands (Naudé & Rothmann, 2003). Maslach, Jackson and Leiter (1996) outlined the predictors of burnout within a structural model of burnout which include both work demands and lack of resources (Figure 2.).

2.4.3.1 Demands: emotional demands. The emotional demands refer to intense and unpleasant interpersonal interactions which form part of the job. Emotional demands include those instances when recipients of care are distressed, angry or anxious or when there is personal conflict among colleagues at work (Maslach & Leiter, 1997). It is important to assess the relationships between employees and both the recipients of their care and their co-workers for potential emotional strain (*ibid*). Overall, excessive emotional demands have been associated with an increase in Emotional Exhaustion, while minimal emotional demands are associated with an enhanced sense of Personal Accomplishment (*ibid*).

2.4.3.2 Demands: breakdown in community. Breakdown of community may result employees losing connection with other employees in the workplace (Maslach & Leiter, 1997). A sense of community or togetherness amongst employees may be compromised by the transient and/or unpredictable nature of a particular work environment (Angerer, 2003). When employers are unable to provide employees with job security, it is likely that employees may resent each other, compete for positions/promotions and fail to form a cohesive working group. This may lead to increase in conflict among staff members, a decline in social support and a greater sense of isolation within the workplace (Maslach & Leiter, 1997). Resultant resentment and mistrust may serve to increase employee cynicism and inefficacy.

2.4.3.3 Demands: work overload. Work overload exists when there are too many tasks to realistically accomplish given existing physical or emotional resources (Wilkerson & Bellini, 2006). Downsizing and restructuring within organisations has a negative impact on employees

since it is likely that existing employees' jobs will become more intense; their tasks are more complex and time-demanding (Angerer, 2003). As the workload increases, individuals may 'moonlight' or work overtime in an attempt to meet deadlines (Maslach & Leiter, 1997). From a burnout perspective, an increase in workload may disrupt collegial relationships, compromise employee well-being and result in a decrease in innovation and quality of care or service (*ibid*).

2.4.3.4 Demands: insufficient reward. Angerer (2003) noted that individuals will strive to achieve extrinsic and intrinsic rewards within an occupational setting. Although employees may continue to receive adequate monetary rewards for work completed, organisations may not provide employees with intrinsic job rewards or enjoyable aspects of work including teamwork, collective trouble shooting and opportunities for creativity (Maslach & Leiter, 1997). Intrinsic aspects of the job are known to motivate employees to work towards a common goal (*ibid*). As a consequence of poor intrinsic and/or extrinsic reward, relationships between employees may become conflictual and employees may feel devalued and cynical about their work (*ibid*).

2.4.3.5 Demands: absence of fairness. Fairness in the workplace was found to be related to three key elements: trust, openness and respect (Angerer, 2003). An absence of fairness within organisations may result in employee dissatisfaction and relates to an absence of equity within the workplace (*ibid*). Lack of fairness is also evident with regards inadequate remuneration and a lack of communication with the organisation (*ibid*).

2.4.3.6 Demands: conflicting values. Maslach and Leiter (1997) stated that "a worker may be caught in the organisation's own conflicting values, which often reflect a discrepancy between the lofty mission statement (excellent customer service) and the actual company goal (the bare minimum service)" (p. 17). Employees may experience value conflict; namely they are required to compromise their own personal value systems in order to accommodate the company policy (Angerer, 2003).

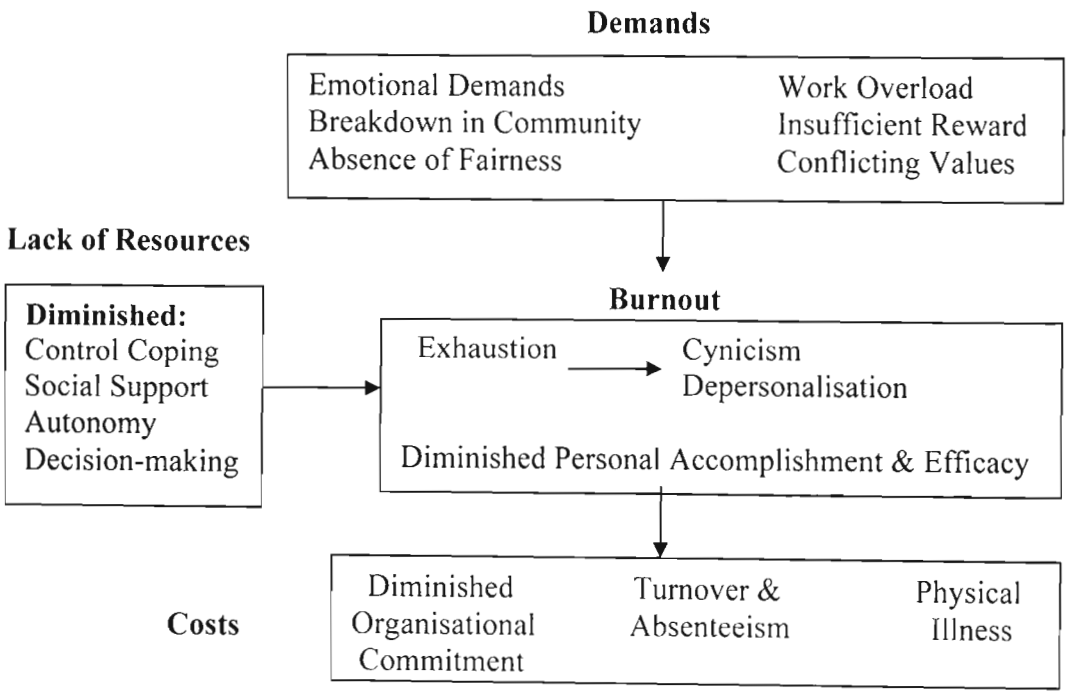
2.4.3.7 Resources: coping styles. Burnout has been linked to differences in coping styles, particularly coping styles oriented towards control (Maslach & Leiter, 1997). Emotional Exhaustion has been negatively correlated with a control-orientated coping style (*ibid*).

2.4.3.8 Resources: social support. Various forms of social support show distinct relationships with the three dimensions of burnout. Pleasant contact with superiors was negatively correlated with Depersonalisation and amiable co-worker interaction has been found to be related to enhanced Personal Accomplishment (Maslach *et al.*, 1996). Alternatively,

conflict with supervisors has been linked to an increase in Emotional Exhaustion (*ibid*). Social support from family members may serve to provide individuals with the resources to cope with demands while an inability to maintain adequate boundaries between work and family life may lead to feelings of Depersonalisation and Emotional Exhaustion (*ibid*).

2.4.3.9 Resources: autonomy and decision-making. The ability and capacity to influence organisational policies, especially those impacting directly on a staff member's work, may reduce an employee's susceptibility to burnout (Maslach & Leiter, 1997). Opportunities that allow employees to engage in problem-solving and the planning of work-related outcomes provide employees with a sense of ownership, responsibility and accomplishment (Maslach & Leiter, 1997). Mechanical or para-military management styles and rigid organisational policies were thought to undermine an employee's sense of autonomy and, may inadvertently, promote burnout among employees (Maslach & Leiter, 1997). In addition, "Bureaucratic red-tape" may impair communication between and within departments (Pines, 1982, p. 206). In contrast, Maslach and Leiter (1997) found that working environments that provide employees with a sense of control enhance job engagement.

Figure 2. The Structural Model of Burnout



From Maslach et al. (1996). Maslach Burnout Inventory Manual (Third Edition) Palo Alto: Consulting Psychologists Press, Inc, p. 36

2.4.4 Additional Burnout Factors

Pines (1982), in her earlier work, cited additional psychological, physical, social and bureaucratic burnout factors. Cognitive and emotional factors that may contribute to employee burnout included lack of task variety and a perceived sense of task *in*significance (Pines, 1982). The physical dimensions of the work environment thought to contribute to the development of burnout include poor architectural structure of the place of work, inadequate working space and heightened noise levels in the office (*ibid*).

Jamal (2004) investigated the effects of non-standard work schedules (hours other 9am-5pm, Monday to Friday) on employee burnout in Canada and found that employees who worked non-standard hours, including nights and weekends, reported significantly higher burnout levels, job stress and health difficulties than those on a fixed day shift. It was argued that those working irregular hours find themselves out of sync with normative social activities (e.g. recreational time with family and friends) and physiological rhythms (e.g. circadian cycles) which places employees at risk of developing burnout symptomology (Jamal, 2004).

In a South African study of burnout in psychiatric nurses (N=94), Levert *et al.* (2000) investigated the correlation between burnout levels and work environment factors. Emotional Exhaustion and Depersonalisation were significantly correlated with the four work environment variables namely an increase in work load, a decline in collegial support and increased role conflict and role ambiguity.

2.4.5 Possible Consequences of Burnout

Farrington (1999) (as cited in Gillespie & Melby, 2003) described burnout as "a haemorrhaging of oneself and depletion of energy in which personal resources seem to be at an end, leaving individuals helpless and negative" (p. 843). The physical symptoms of burnout may be similar to those of stress-related syndromes and include chronic fatigue, insomnia, nausea, gastrointestinal problems and recurrent minor illness (*ibid*).

Freudenberger (1982) (as cited in Paine, 1982) cautioned against the tendency to confuse burnout with depression. Many symptoms of burnout, including irritability, fatigue, flattened affect and withdrawal, are present during mood disturbances (Bakker, Schaufeli, Demerouti, Janssen, van der Hulst & Brouwer, 2000 & Schaufeli, Bakker, Hoogduin, Schaap & Kladler, 2001). However, in cases of major depression, mood disorder symptoms are usually context-

free, pervade all areas of functioning and are not exclusively related to the occupational setting (Schaufeli *et al.*, 2001). In comparison, burnt-out individuals experience affective changes primarily at work and as a consequence of work-related stressors indicating that burnout is primarily a psychosocial disorder (Bakker *et al.*, 2000 & Farber, 2000). The International Classification of Diseases (ICD-10) has recognised differences between burnout and depressive symptoms; *Job-related neurasthenia* is the common ICD-10 classification for burnout (*ibid*). Schaufeli *et al.* (2001) cautioned, however, that dysphoric symptoms of burnout may manifest as depressive symptoms, without appropriate intervention.

The exact measurement of the severity of burnout remains under review and, although Maslach *et al.* (1996) outlined distinct categories of Low, Moderate and High burnout, they cautioned that these categories are primarily used when delivering feedback to individual respondents. It is also not clear how and to what extent low/mild burnout may develop into a more severe and debilitating form of burnout (Schaufeli, 2003). Consequently, self-report inventories and qualitative data should to be used to assess burnout severity (*ibid*).

2.4.6 Gender, Age and Marital Differences in Burnout

Klarreich (1988) noted that women are more at risk of burnout than men since there is an increased number of women entering a traditionally male-dominated workplace. In response, women may be inclined to set unrealistically high expectations of themselves and/or of their employers (*ibid*). When these expectations are not met, subsequent feelings of frustration, hopelessness and resentment may result in burnout (*ibid*). Peltzer *et al.* (2003) studied burnout within a sample of South African medical professional (N=402) and found that Emotional Exhaustion was associated with Female doctors while Male doctors evidenced higher levels of Personal Accomplishment. Maslach (1982), however, found no gender differences in burnout. In the current study, it is hypothesised that there are differences in burnout between male and female participants.

Peltzer *et al.* (2003) found that length of service was inversely related to Depersonalisation and positively correlated with Personal Accomplishment in a group of South African doctors. According to Klarreich (1988), younger employees are more likely to experience burnout than older employees since young employees enter the workplace with notions of "setting the world on fire" (p. 102). When these notions are not fulfilled, younger

employees may become disillusioned and burn out (*ibid*). In comparison, older employees are more career mature and are, therefore, more likely to possess realistic perceptions of their ability (*ibid*). Heyns *et al.* (2003) and Peltzer *et al.* (2003) found that burnout is associated with younger employees. The current study will test the hypothesis that there are differences in burnout among paramedic age and experience groups.

Single or divorced individuals may be more at risk of burnout since they are inclined to be more preoccupied with work than married employees (Klarreich, 1988; Maslach, 1982 & Peltzer *et al.*, 2003). Following a divorce, individuals may distract themselves from their personal difficulties by becoming excessively committed to work. Alternatively, divorcees may possess exaggerated occupational goals in order to compensate for diminished personal relationships and feelings of inadequacy (Klarreich, 1998). This may lead to a blurring of boundaries between professional and personal self-esteem (*ibid*). Similarly, Klarreich (1998) found that single employees are likely to derive their sense of self-worth from their careers while married individuals are more likely to possess realistic expectations of their careers and have additional, non-occupational, interests and hobbies (*ibid*). It must be noted; however, that marriage does not prevent burnout and married employees may suffer from double-burnout; namely burnout at work and burnout at home (Klarreich, 1988). Differences in burnout between single, married and divorced/separated paramedics are explored in the current study.

2.4.7 Race/Cultural Differences in Burnout

Schaufeli (2003) stated that the relative acceptance of burnout theory differs from country to country and burnout has been referred to as *overstrain*, *distress* and *stress syndrome* internationally. Golembieski *et al.* (1996) (as cited in Schaufeli, 2003) conducted burnout research in over a dozen countries and concluded that "burnout seems to be generic" (p. 6) while Schaufeli (2003) noted that a comprehensive cross-cultural perspective on burnout was lacking. In South Africa, burnout research has been conducted, evidenced by publications citing the Maslach Burnout Inventory (Cilliers, 2003; Heyns *et al.*, 2003; Levert *et al.*, 2000; Naudé & Rothmann, 2006; Peltzer *et al.*, 2003; Rothmann, 2003; Storm & Rothmann, 2003a; 2003b & Wiese *et al.*, 2003). However, South African researchers utilised a eurocentric measurement of burnout, as was used in the current study, that may not be sensitive to cultural differences. Naudé

and Rothmann (2003) recommended that measurement bias should be assessed when differences in results could be attributed to cultural differences in item interpretation.

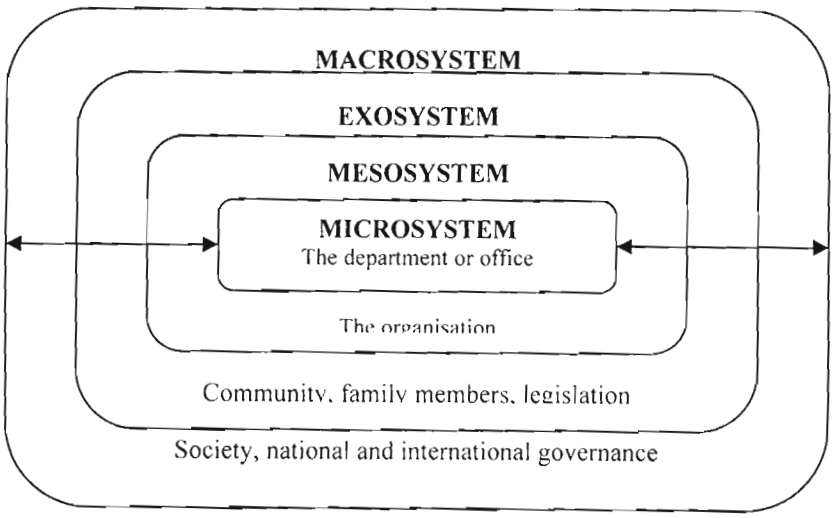
Storm and Rothmann (2003b) utilised the *Maslach Burnout Inventory-General Survey* (MBI-GS) to measure burnout within a sample of 2396 South African Police Service (SAPS) members. The study was intended to establish the internal consistency and construct validity of the MBI-GS among the various race groups of individuals employed by SAPS. Storm and Rothmann (2003b) emphasised the importance of considering construct equivalence and item bias when applying measures to different race groups. Consequently, they hypothesised that burnout is an equivalent and unbiased construct for White, Black, Coloured and Indian police officers and found that the three factors of the MBI-GS (e.g. Exhaustion, Cynicism and Professional Efficacy) were equivalent for all four race groups under study (Storm & Rothmann, 2003b). This was in contrast to findings by Peltzer *et al.* (2003), who found that White doctors reported significantly more job stress than doctors from other race groups and Depersonalisation was higher among white doctors than among doctors of colour. No race differences on the remaining dimensions were noted in the same study. The current study will test the hypothesis that there are differences in the dimensions of burnout among paramedics from the various race groups (i.e. Black, White, Aisin/Indian and Coloured paramedics).

2.4.8 Burnout from an Ecological Perspective

Carrol and White (1982) viewed burnout as an ecological dysfunction, a phenomenon that is initiated and reciprocated within a set of systems. From an ecological perspective, burnout is viewed as a consequence of the dynamic interaction of both the person (i.e. need to overachieve, unrealistic expectations and poor physical health) and his/ her ecosystem (i.e. noise level, poor supervision or rigid organisational policies) (Carrol & White, 1982). An Ecosystemic approach takes cognisance of the fact that an individual is immersed in a number of systems which include; the Mircosystem, the smallest unit of organised work (office or department); the Mesosystem, the larger complex of work unit (the organisation); the Exosystem, non-work related eco-systems that impact directly on the worker (community, legislators, family members) and the Macrosystem, the larger cultural or world-wide complex (Figure 3.) (Carrol & White, 1982). Carrol and White (1982) identified several ecosystemic factors that may contribute to burnout which including:

- *Boundary issues.* The adequacy of system boundaries plays a significant role in determining worker dynamics. Organisation incest, resulting from diffuse boundaries, may promote employee burnout, while rigid boundaries impair communication across systems and may cause employee isolation and cynicism (Carrol & White, 1982).
- *Task/role-person mismatch.* Incongruity between an individual's skills and stress tolerance will result in feelings of frustration and helplessness (*ibid*).
- *Governance.* Organisational norms, including leadership and decision-making, will have an impact on the amount of reward an employee will receive. If the ecosystem governance is not congruent with employees' expectations, burnout may be a consequence (*ibid*).
- *Goal and Objectives.* The clarity, feasibility and overall organisational support for the ecosystem's objectives may determine the degree of employee burnout (*ibid*).
- *Obstacles and resources.* At the level of the individual (e.g. microsystem) contains various obstacles and/or resources. The degree of balance between obstacles and resources in the working environment is a further predicative factor of occupational burnout (*ibid*).
- *Interface Issues.* The compatibility between the numerous systems contributes to the degree of congruence in an individuals' life. When systems are incompatible, occupational burnout may be a consequence of this failure to manage conflicting values (*ibid*).

Figure 3. The Organisational Ecosystem



Adapted from Carrol, F.X., & White, W.L. (1982). Theory Building: Integrating Individual and Environmental Factors Within an Ecological Framework. In W.S. Paine (Ed). *Job Stress and Burnout.* (pp. 41-60). London: Sage Publications, p. 55.

2.5 Coping

McSherry and Holm (1994) ask "Why do some individuals suffer from an inordinate number of maladies, while others who experience nearly identical stressful situations fare much better?" (p. 475). Indeed, some individuals maintain a psychosocial and physical well-being despite adversity within their personal or professional lives. During the last thirty years, empirical and theoretical research has examined possible psychological and social variables that may account for individual differences in coping (Kravetz, Drory & Florian, 1993). Resilient individuals appear to share three common core characteristics; a basic interpretation that the world is benign, stressful events are viewed as challenges or opportunities for change, and setbacks/failures are normal consequences of daily living (Ortlepp & Friedman, 2001).

Authors working within the coping paradigm have proposed a variety of stress-resistant constructs including health-enhancement models such as Kobassa's Hardy personality-type, Sense of Coherence, the buffering models of social support and behavioural stress management techniques. For the purpose of this research, Antonovsky's (1987) Sense of Coherence and the *salutogenic* paradigm will be reviewed since it has associated with burnout in existing studies.

2.5.1. Salutogenesis and Sense of Coherence

Dissatisfaction with the bio-medical model lead theorists to develop a more health-focussed mental health paradigm. Antonovsky (1987) was of the opinion that the pathogenic orientation invariably leads to stressors being perceived as pathogenic risk factors. Consequently, he investigated factors that predisposed individuals to health and wellness. His theory of health, stress and coping was health-orientated, or salutogenic (from *salus,* health and *genisis*, origin), as opposed to pathogenic or disease-orientated (*ibid*). Antonovsky (1987) viewed health and pathology along a health ease/disease continuum and was interested in factors promoting the movement towards the healthy end of the continuum (*ibid*). According to Antonovsky (1987) the outcomes of stressors or tension states will be pathogenic, neutral or salutogenic depending on an individual's ability to manage stress and summon stress-resistant resources. Central to Antonovsky's salutogenic model was the construct of *Sense of Coherence*. Sense of Coherence (SOC) is thought to be a crucial element in basic personality structure and was loosely defined as a "generalised, long-lasting way of seeing the world and one's life in it" (Antonovsky, 1987, p. 22). More specifically, Antonovsky (1987) defined Sense of Coherence as:

> a global orientation that expresses the extent to which one has a pervasive, enduring, though dynamic feeling of confidence that one's internal and external environments are predictable and that there is a high probability that things will work out as well as can reasonably be expected (p. 19).

Antonovsky's Sense of Coherence shares commonalities with other coping theories including Bandura's self-efficacy theory, Rotter's locus of control and Kobassa's Hardiness (Taylor, 2004). All four coping constructs, Self-efficacy, Hardiness, Locus of Control and Sense of Coherence; are salutogenic as they all represent a positive orientation, are indices of metal well-being and are transactional in nature (Taylor, 2004).

Antonovsky (1987) sampled a variety of research participants who shared two common characteristics; they had experienced major trauma and had reported to be coping astonishingly well. He searched protocols and derived three common themes that represent the core components of Sense of Coherence;

- *Comprehensibility* refers to the extent to which an individual is able to make cognitive sense of their external and internal environment (Antonovsky, 1987). A person who possesses high Comprehensibility expects that the stressors he or she encounters will be predicable and perceives the environment as consistent and structured rather than chaotic, random and inexplicable (*ibid*).
- *Manageability* is defined as the degree to which individuals believe that they have the adequate and sufficient resources to meet the demands posed by stimuli (*ibid*). An individual with high Manageability is less likely to feel traumatised by events since they believe that they have the necessary resources- family, religion, or colleagues- to cope with stressors (*ibid*).
- *Meaningfulness* refers to the extent to which an individual feels that life makes emotional sense (*ibid*). It is likely that the individuals who possess high meaningfulness perceive demands posed by daily living as worthy of investment and engagement (*ibid*). High Meaningfulness, therefore, engenders an individual to view stressors as challenges and opportunities for growth as opposed to burdens (*ibid*).

Rabin, Matalon, Maoz & Shiber (2005) further conceptualised the Sense of Coherence components as cognitive, behavioural or emotional/spiritual. Comprehensibility represents the cognitive component of Sense of Coherence since it relates to an individual's cognitive appraisal

of his/her environment as either stable and consistent or chaotic and unpredictable (Rabin *et al.*, 2005). Manageability represents the behavioural component and determines the extent to which an individual will utilise positive resources in the environment to cope with stressors *(ibid)*. Meaningfulness is the emotional or spiritual component since it relates to whether or not individuals are to make sense of life stressors (*ibid*).

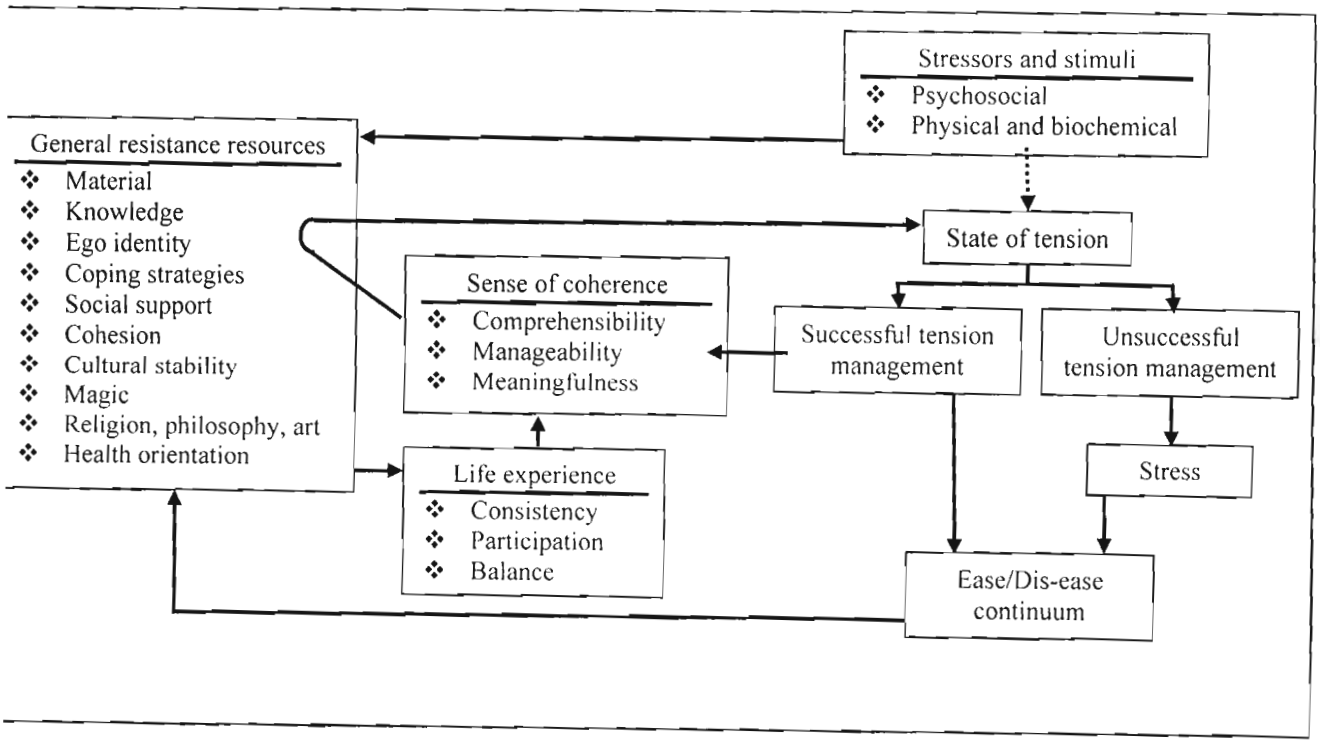
According to Flannery and Flannery (1990), Sense of Coherence is an implicit construct that appears to mitigate stress rather than existing as specific buffer variable. Antonovsky (1987) made a fundamental point of emphasising that Sense of Coherence is not a coping style, but rather that a strong Sense of Coherence predisposed individuals to consistently change their coping style- fight, flee or freeze- in accordance to the demands of the stressor (Antonovsky, 1987). Overall, a strong Sense of Coherence is related to competence and life satisfaction, emotional stability and adequate coping (Rothmann *et al.*, 2003). Antonovsky (1987) established a circular relationship between the development of a strong Sense of Coherence and Generalised Resistance Resources (GRRs) (Figure 4.). GRRs refer to any characteristic of an individual, a group and/or the environment that facilitates effective stress management in demanding situations (Ortlepp & Friedman, 2001). GRRs are physical (immuno-suppressors), cognitive (knowledge and intelligence), emotional (ego identity and coping), macro-sociocultural (culture and religion) and material (wealth) in nature (Heyns *et al.*, 2003). The relative availability and accessibility of GRRs will determine the development of a strong or weak Sense of Coherence in individuals. Antonovsky (1987) hypothesised that individuals with a strong Sense of Coherence are more likely to appeal to GRRs when confronted by a stressful event, GRRs facilitate the salutary (health- orientated) management of stressors, and this, in turn, reinforces the belief that life events are manageable, meaningful and comprehensive (Heyns *et al.*, 2003). Conversely, life experiences that are perceived to be irrelevant, uncertain and unpredictable will lead to the development of a weak Sense of Coherence (Rothmann *et al.*, 2003). Individuals who possess a weak Sense of Coherence may be at risk of mental or health breakdown since they are less likely to mobilise adequate GRRs during times of stress (Ortlepp & Friedman, 2001).

2.5.2 Sense of Coherence and Stress

Antonovsky (1987) stated that stressors are "demands to which there are no readily available or automatic responses" (p. 27) and separated stressors into three distinct groups,

namely chronic stressors, major life vents and daily hassles. With reference to the Transactional Model of Stress, Shalit (1982) (as cited in Antonovsky, 1987) acknowledged that the appraisal process begins with the judgement that the stress stimulus is nonambiguous; the process Shalit (1982) referred to as *coherence*. Antonovsky (1987) noted the parallels between Lazarus' transactional stress model and Sense of Coherence and argued that individuals with a high Sense of Coherence are more flexible when appraising their coping resources (i.e. Manageability and Comprehensibility) and are more likely to perceive stressors as benign (i.e. Meaningfulness) (Kravetz *et al.*, 1993). Indeed, the presence of a strong or weak Sense of Coherence alters the stress appraisal and may have a mediating and/or moderating effect on stress. Levert *et al.* (2000) further hypothesised that individuals with a low Sense of Coherence may even create stressful situations; for example, take on too much work but fail to ask for assistance and become over-extended. Sense of Coherence has been explored in various stress-related fields and has been found to be negatively correlated with physical aliments and psychological symptoms such as anxiety and depression (Flannery & Flannery, 1990 & Ortlepp & Friedman, 2001).

Figure 4. Antonovsky's Salutogenesis Model



From Pleaner, B. (2005). *Stress and Coping: A Brief Handbook*. TOA Publications, p. 20

2.5.3 Sense of Coherence and Burnout

Strűmpfer (1995) (as cited in Strűmpfer & Bands, 1996), a South African researcher, argued that salutogenesis focuses primarily on the origins of health. He extended Antonovsky's paradigm to include *fortigenesis* (from *fortis,* strength and *genisis*, origin), which refers to the origins of both physical and psychological strength (Strűmpfer & Mlonzi, 2001; Strűmpfer, 2005). Fortigenesis relates to an individual's Sense of Coherence and GRRs that enable the individual to cope with intensive personal dilemmas, physical demands and omnipresent stressors (*ibid*). Strűmpfer (2003; 2005) applied the fortigenic paradigm to burnout research in an attempt to shift thinking away from the pathogenic concept of burnout towards it's fortigenic counterpart, namely Job/Work Engagement. Work Engagement refers to a positive, work-related, affective cognitive-state, which is made up of the opposite components of burnout namely *Energy or Vigour;* characterised by high energy levels and resilience while working; *Involvement or Dedication;* the process of deriving meaning from one's work; and *Efficacy of Absorption,* characterised by being immersed in one's work (Naudé & Rothmann, 2006 & Strűmpfer, 2003). Deriving meaning in the workplace, aligned with the Sense of Coherence construct of Meaningfulness, was cited as a major factor in the promotion of Job Engagement since "the cause of burnout lies in our need to believe that one's lives are meaningful and that the things we do are useful, important and heroic" (Strűmpfer, 2003, p. 391). Strűmpfer (2003) hypothesised that meaning-related variables, such as Sense of Coherence, may prevent burnout for the following reasons;

- Enhanced job satisfaction may occur when employees are able to make cognitive sense of their workplace and perceive their environment as ordered, structured and predictable (i.e. Comprehensibility) (Strűmpfer, 2003).
- Employees who perceive their work-related tasks as positive challenges as opposed to negative stressors are more likely to experience greater job satisfaction (*ibid*). In addition, job satisfaction depends on whether employees have the necessary resources to cope with work-related challenges. This is likened to concept of Manageability and Meaningfulness (*ibid*).
- Increased job satisfaction is likely to be more prevalent in employees who were able to make emotional and motivational sense of their work (*ibid*). Similarly, Meaningfulness engenders individuals to view job tasks as emotionally relevant (*ibid*).

Wissing and van Eeden (1998) (as cited in Heyns *et al.*, 2003) defined a term related to fortigenesis, namely *psychofortology* which refers to "the science of psychological strengths" (p. 81). Heyns *et al.* (2003) found significant negative correlations between both Emotional Exhaustion and Depersonalisation (MBI-subscales) and Sense of Coherence in a sample of psychiatric nurses. Significant positive correlations were found between Sense of Coherence and Personal Accomplishment in the same study (*ibid*). Consequently, Heyns *et al.* (2003) concluded that evidence is accumulating that, in human service professions, the presence of psychofortigenic constructs, including high levels of Sense of Coherence, predict lower levels of occupational burnout and facilitate coping.

Levert *et al.* (2000) found significant correlations between SOC-13 scores and Emotional Exhaustion and Depersonalisation in a sample of psychiatric nurses (N=94) whilst Ortlepp and Friedman (2001) found that Sense of Coherence exerted strong main effects on the variance of indicators of secondary traumatic stress in a sample of South African trauma counsellors (N=130). This finding supported Antonovsky's theory, namely that Sense of Coherence is a global construct which mitigates life stress and influences overall behaviour, as opposed to a specific mediating and/or moderating variable.

Naudé and Rothmann (2006) assessed the relationships between occupational stress, Sense of Coherence, burnout and Work Engagement in a sample of emergency workers (including firefighters, ambulance drivers, emergency staff and paramedics) in Gauteng (N=323). They found that Emotional Exhaustion was positively correlated to Depersonalisation and significantly negatively correlated with Sense of Coherence. Depersonalisation was also significantly negatively related to Sense of Coherence. Significant positive correlations between Personal Accomplishment and Sense of Coherence were also found (Naudé & Rothmann, 2006). Overall, emergency workers with a strong Sense of Coherence were found to experience lower levels of burnout and more Work Engagement. This finding is particularly significant with reference to the current research since the one of the main aims of the study is to investigate the relationship between Sense of Coherence and burnout in paramedics. The current study will test several hypotheses pertaining to the relationship between Sense of Coherence and the dimensions of burnout, namely Emotional Exhaustion, Depersonalisation and Personal Accomplishment.

2.5.4 Gender and Age differences in Sense of Coherence

Kirsten and Wissing (2003), in a study to determine gender differences in psychological well-being in a South African sample, found no significant difference in Sense of Coherence between men (N=90) and women (N=288) while Wissing and van Eeden (2002), found significant differences between men (N=244) and women (N=306) on some scales of psychological well being, including the *Orientation to Life Questionnaire* (i.e. Sense of Coherence scale). Wissing and van Eeden (2002) cautioned that these results should be interpreted in light of the cultural, social, socio-economic and gender roles constructed for men and women in South Africa. Women are traditionally more susceptible to socio-economic deprivation and cultural limitations as well as inequality or discrimination in the workplace (Heiman, 2004 & Wissing & van Eeden, 2002). These factors may compromise the availability of GRRs, thereby influencing the development of Sense of Coherence.

Childhood and adolescence life stages are important life stages for development of Sense of Coherence (Horsburgh, 2000). By early adulthood, individuals are thought to have developed a tentative Sense of Coherence and, although, Sense of Coherence becomes relatively stable by the age of thirty, changes in Sense of Coherence may occur as a result of major life changes (Sullivan, 1989). It is hypothesised that there are differences in Sense of Coherence among gender and age groups sampled in the present study.

2.5.5 Race/Cultural Differences in Sense of Coherence

Levert et al. (2000) noted that Sense of Coherence may be universally meaningful construct that cuts across lines of gender, class structure and culture. Feldt *et al.* (2004) argued environmental and cultural factors do not have a direct influence on Sense of Coherence; it is the interpretation of internal and external stimuli that leads to the development of weak or strong Sense of Coherence.

However, since Sense of Coherence is developed through the process of understanding one's life experiences, it is still rooted in the historical and socio-cultural context of the individual (Rothmann *et al.*, 2003). Wissing and van Eeden (2002) studied the manifestation of psychological well-being in different gender, cultural and age groups in a multi-cultural sample of 550 South African citizens and found acceptable reliability and validity indices on the Orientation to Life Questionnaire (OLQ). They found that the internal consistency of the OLQ

seemed to be higher, for the most part, for the White race group (N=298) as opposed to the Black participants (N=258) (Wissing & van Eeden, 2002). However, these results should be interpreted with caution since participants from the Black Group "may be in a transitional phase form a more collective orientation system" (Wissing & van Eeden 2002, p. 37). Similarly, Antonovsky's (1979) (as cited in Wissing & van Eeden, 2002) argued the prevalence of GRRs is lower in historically disadvantaged communities and individuals in disadvantaged communities are more prone to stress and less likely to develop a stronger Sense of Coherence. This finding may highlight the impact of oppression, discrimination and socio-political factors with reference to psychological well-being in South Africa (Wissing & Van Eeden, 2002). It is, however, anticipated that equity and equality dispensations will enhance the development of psychological well-being within previously disadvantaged communities in South Africa (*ibid*). The present study will test for differences in Sense of Coherence between sampled race groups.

2.5.6 Sense of Coherence Wellness Programmes

Antonovsky's theory of salutogenisis has been criticised as lacking in practical application. Gruman (1994) noted that "the broad analysis provided by Antonovsky gives us no purchase on action- we do not know how to begin" and argued that "..if all events, internal and external, are related to the salutogenic process, how does one act to improve the prospects?" (p. 21). Recent developments in employee wellness research have promoted researchers to put salutogenic constructs into practise. One such programme was proposed by Rabin *et al.* (2005) who developed salutogenic- orientated intervention for doctors. They noted that medicine, as a profession, is structured and coherent, governed by stringent guidelines and a hierarchical management, which, in theory, should translate into comprehensible, meaningful and manageable practise (Rabin *et al.*, 2005). However, the chaotic nature of the health care system gives rise to many sources of stress including the taxing demands of patient care, the overemphasis on disease and pathology, information overload, conflictual work relationships (e.g. doctor-patient, doctor-superior) and home-work conflict (*ibid*). In order to promote the three components of Sense of Coherence, Rabin *et al.* (2005) emphasised the following practices:

- Information overload is evident within the profession; it has been suggested that health care administrators should invest in training courses where doctors are able to gather,

learn and put into practice emerging medical techniques (Rabin *et al.*, 2005). This may promote Comprehensibility with the profession (*ibid*);

- Health care administrators should provide medical professionals with clear, reliable and updated information concerning general hospital administration and standard operating procedures thereby promoting a sense of Comprehensibility and Manageability (*ibid*).
- The introduction of individual supervision, group supervision and personal tutoring provides doctors with professional and academic support and may assist in restoring a sense of Comprehensibility and Manageability within the health care system (*ibid*). In addition, identification with role models may encourage doctors to invest in their work and practices, making their experience of their medical work more meaningful (*ibid*);

2.7 Conclusion

Chapter Two outlined the findings of other studies in the area of stress-burnout and coping. The review encompassed stress theory, previous research conducted in the area of paramedic occupational stress and coping, burnout theory, Sense of Coherence theory and, finally, Sense of Coherence wellness programmes. The review highlighted existing literature that informed the discussion pertaining to the results obtained in the current study.

Chapter Three: Methodology

3.1 Introduction

Occupational health, psychological and industrial researchers in South Africa have investigated the physical, emotional and academic demands placed on those emergency care workers. This research aimed to investigate the prevalence of, and relationship between burnout and coping within the paramedic occupational group. In addition, the stressors experienced by paramedics and the available support systems that were explored will be presented. The framework for the current study was situated in the stress-strain-coping paradigm, with the stress referring to the *occupational stressors* evident within this group, coping referring specifically to *Sense of Coherence,* and strain, to *burnout.*

3.2 Research Design

A research design should serve as a bridge between research hypotheses and the implementation of the research (Durrheim, 1999b). Consequently, a double-blind survey design was used for this exploratory study since data were obtained exclusively by anonymous, self-administered questionnaires including *the Orientation to Life Questionnaire (OLQ)*, the *Maslach Burnout Inventory-Human Services Survey (MBI-HSS)* and a study-specific biographical questionnaire. Sense of Coherence and occupational burnout have been quantified using existing, standardised psychometric instruments and it was, therefore, appropriate to utilise the MBI-HSS and the OLQ measure the constructs under study.

There are several advantages associated with the use of self-administered questionnaires including the maintenance of participant anonymity and ease of administration and scoring. In addition, the double-blind method increases the likelihood of participants responding in an unbiased manner. Conversely, the use of anonymous questionnaires may foster social desirability within the participant group, resulting in altered or desirable responses, and this method may contribute to a poor response rate. In addition, the double blind method makes it difficult for researchers to monitor the completion of questionnaire and encourage participant commitment since there is an absence of personal communication between the researcher and the participants. In the study, however, the researcher met with most sample participants to discuss the nature and aims of the current study.

3.3 Research Aims and Hypotheses

The aim of the current study was to assess the relationship between coping resources and occupational burnout, namely whether the Sense of Coherence, as a coping construct, mediated the prevalence and severity of the experience of burnout within a sample of eThekwini paramedics. In addition, the aim was to explore and highlight stressors and sources of support within this group. The specific study aims included the following:

- To highlight the common job-related stressors experienced by this group of paramedics;
- To assess the nature of support utilised by this group during time of stress;
- To investigate the incidence of burnout and Sense of Coherence dimensions within the paramedics sample;
- To explore the relationship between the dimensions of burnout, namely Emotional Exhaustion, Depersonalisation and Personal Accomplishment, and Sense of Coherence;
- To investigate the main effects among Sense of Coherence and the dimensions of burnout;
- To investigate the relationship between burnout, Sense of Coherence and demographic variables, including gender, age, race, marital status and job experience.

Qualitative analysis was likely to confirm that the stressors encountered by this group of paramedics are extra-organisational, organisational and/or individual, in nature. In addition, it was probable that the paramedics in the present study utilise informal support networks (e.g. Spouses, Colleagues) as opposed to professional sources of support (e.g. Doctor, Counsellor/Psychologist). The following hypotheses relating to Sense of Coherence and Burnout were be tested using statistical methods:

H1: There is a significant negative correlation between Sense of Coherence and the Emotional Exhaustion component of burnout;

H2: There is a significant negative correlation between Sense of Coherence and Depersonalisation;

H3: There is a significant positive correlation between Sense of Coherence and Personal Accomplishment;

H4: Sense of Coherence, Depersonalisation and Personal Accomplishment predicts Emotional Exhaustion in paramedics.

H5: Sense of Coherence, Emotional Exhaustion and Personal Accomplishment predicts Depersonalisation in paramedics.

H6: Sense of Coherence, Emotional Exhaustion and Depersonalisation predicts Personal Accomplishment in paramedics

H7: There are significant differences in the dimensions of burnout (Emotional Exhaustion, Depersonalisation and Personal Accomplishment) and Sense of Coherence between men and women.

H8: There are significant differences in the dimensions of burnout (Emotional Exhaustion, Depersonalisation and Personal Accomplishment) and Sense of Coherence between age groups.

H9: There are significant differences in the dimensions of burnout (Emotional Exhaustion, Depersonalisation and Personal Accomplishment) and Sense of Coherence between race groups.

H10: There are significant differences in the dimensions of burnout (Emotional Exhaustion, Depersonalisation and Personal Accomplishment) and Sense of coherence between marital status groups.

H11: There are significant differences in the dimensions of burnout (Emotional Exhaustion, Depersonalisation and Personal Accomplishment) between job experience groups.

3.4 Sampling and Sample Description

Purposive sampling was used since the researcher was investigating a particular psychological phenomenon within a specific sample. The study sample consisted of paramedics employed by a private emergency care organisation, who worked at four response bases in the eThekwini area. Although there are several private and government-funded emergency care organisations in KwaZulu-Natal, the sample was purposefully selected from one organisation in order to eliminate extraneous ecosystem variables that may exist in different organisations, including boundaries issues, task/role mismatch and governance, from the study.

There were no exclusionary criteria for this study. The researcher sampled to redundancy by inviting all paramedic staff employed at the four response units to participate in the study. Self-administered questionnaires were delivered questionnaires to approximately 108

participants (Table 1). A total of 56 questionnaires were successfully completed, indicating a response rate of 52%. The sample consisted of predominantly white (55%), married (48%) (as opposed to either single, separated or divorced), male participants (71%), with over 10 years work experience (41%). Study participants were permanent, full-time staff members and who worked rotational shifts. All participants had undergone the appropriate training, achieving either a basic, an intermediate or and advanced level of emergency care qualification.

3. 5 Data Collection

Data were be collected by means of a "questionnaire pack" consisting of a letter detailing the nature and aim of the study, a study-specific biographical questionnaire and a consent form, the MBI-HSS and the OLQ. The various components of the pack have been applied within the South African context (Heyns *et al.*, 2003; Levert *et al.*, 2000; Naudé, & Rothmann, 2006; Strűmpfer & Mlonzi, 2001; Strűmpfer & Bands, 1996 & Strűmpfer *et al.*, 1998) and demonstrate psychometric support for the concepts under study.

3.5.1 Biographical Questionnaire (Appendix 2)

Participants were requested to indicate, via initials, that they had read the study information letter (Appendix 1.) and were consenting to participate in the study. They were requested to document their biographical information including their age (e.g. 18-25 years), gender, race, marital status and the years of experience on the job (e.g. 0-3 years, 4-6 years ect.). Respondents were then asked to describe a particularly stressful work-related incident and record whom they were likely to seek support from when they had encountered work-related stressors (e.g. *Spouse* or *Colleague*).

3.5.2 Maslach Burnout Inventory (MBI-HSS)[1]

The MBI-HSS is a self-administered questionnaire designed to measure the three dimensions of Maslach's burnout, namely Emotional Exhaustion, Depersonalisation and Personal Accomplishment. Items are rated according to frequency; 0=Never; 6=Everyday. The Emotional Exhaustion sub-scale consists of nine items (e.g. I feel emotionally drained at work), the Depersonalisation component consists of five items (e.g. I feel I treat some of my recipients as if they were interpersonal objects) and the Personal Accomplishment, eight items (e.g. I can

[1] The MBI-HSS is a licensed/copyrighted instrument

easily understand how my recipients feel). Maslach *et al.* (1996) reported acceptable reliability co-efficients for MBI-HSS subscales including 0.90 for Emotional Exhaustion, 0.79 for Depersonalisation and 0.71 for Personal Accomplishment. In South Africa, satisfactory Cronbach alphas were reported for Emotional Exhaustion (0.77), Depersonalisation (0.66) and Personal Accomplishment (0.78) (Naudé & Rothmann, 2006) indicating that the MBI-HSS may be utilised within the South African context. Satisfactory reliability and validity indices support the use of the MBI in the current study.

Table 1.

Characteristics of the study participants (N=56)

Characteristic	Category	*N*	Percentage
Gender	Male	40	71.4
	Female	16	28.6
Age	18-25 yrs	9	16.1
	26-30 yrs	18	32.1
	31-35 yrs	17	30.4
	36-40 yrs	7	12.5
	41+ yrs	5	8.9
Experience	0-3 yrs	8	14.3
	4-6 yrs	15	26.8
	7-9 yrs	10	17.9
	10 + yrs	23	41.1
Marital Status	Single	24	42.9
	Married	27	48.2
	Divorced/Separated	5	8.9
Race	Black	5	8.9
	White	31	55.4
	Asian/Indian	17	30.4
	Coloured	3	5.4

3.5.3 Orientation to Life Questionnaire (OLQ)) [2]

The OLQ is a self-administered questionnaire which measures Antonovsky's Sense of Coherence construct. The OLQ consists of 29 questions which are rated on a 7-point sematic differential scale (e.g. Life is: 1: full of Interest, 7: completely routine). Thirteen items of the 29 items are scored in reverse (e.g. When I talk to people, do you have the feeling that they don't understand?: 1: never have this feeling; 7: always have this feeling). The items are further divided into statements devised to elicit responses related Manageability (MA) (10 items), Comprehensibility (C) (11 items) and Meaningfulness (ME) (8 items) (Antonovsky, 1987). A composite Sense of Coherence score is obtained from all 29 items as opposed to individual sub-scale scores for manageability, comprehensibility and meaningfulness. A short form of the OLQ is available and consists of 13 items (SOC-13). However, the original 29 item questionnaire has been utilised more frequently in previous research and it's use in the current study facilitated comparison with exiting data. Antonovsky (1987) reported acceptable Cronbach's alpha coefficients ranging from 0.84 and 0.93. Wissing and van Eeden (1998) (as cited in Heyns *et al.*, 2003) found alpha coefficients ranging from 0.85 to 0.91 in relation to the face, construct and criterion validity of the OLQ. In South Africa, Roothman *et al.* (2003) reported an alpha coefficient of 0.87 in a multi-cultural study of coping and, Wissing and van Eeden (2002), who studied the manifestation of psychological well-being in different gender, cultural and age groups in 550 South African citizens, found acceptable reliability and validity indices on the OLQ. Overall, the strong validity and reliability scores indicated that it was appropriate to use the OLQ to collect Sense of Coherence data within the current sample.

3.6 Administration/ Procedure

The sample emergency care organisation was selected on the basis of the large number of employees working in the eThekwini area. The organisation's regional manager for KwaZulu-Natal was contacted and consent to collect data from the employees was obtained from the organisation's head office.

The initial data collection took place over three months during the period of September to November 2005 and data were collected from two response bases. The questionnaire packs were distributed to all paramedics employed at the bases and the staff were requested to complete the

[2] The OLQ is a licensed/copyrighted instrument

components of the pack while waiting for call outs. The researcher visited the bases on many occasions to collect complete questions. No time limit for the completion of questionnaires was imposed and after a moderately poor initial response (37 questionnaires from 71 participants), a second phase of data collection was conducted in January 2006 at two additional bases. During this time the intensity of interaction between researcher and participants increased; the researcher visited the bases at each shift change to talk to participants about the importance of the research and invite staff members to informally discuss the aspects of their job. Nineteen questionnaires were collected from a sample of 36 participants in the second phases of data collection.

3.7 Ethical Considerations

The current study proposal was reviewed and accepted by the appropriate ethical committees affiliated with the University of KwaZulu-Natal (Social Sciences and Humanities). The ethical guidelines recommend by Emanuel *et al.* (2000) (as cited in Chau, 2001) were adhered to. Ethical issues were addressed at the national level and regional level of sample emergency care organisation's national level and at the level of the individual participant. For those participants who were not approached personally, they were requested to read the study information (Appendix 1.) and contact the researcher for queries. Fair subject selection was maintained since all participants employed at the four bases were invited to participate in the study. Participants were required to indicate, on the Biographical Questionnaire (Appendix 2), that they have understood the nature and aims of the study, were participating voluntarily, had been informed of their right to withdraw from the study and would contact the researcher should they find the data collection process upsetting (Appendix 2). This addressed the ethical principle of informed consent and established a favourable risk benefit ratio. Data obtained were anonymous and used exclusively for the purposes of research, ensuring non-malificence. In addition, the current study offers social and scientific value (i.e. beneficence).

3.8 Qualitative Analysis

Support systems that were likely to be utilised by paramedics were assessed by asking the following question in the biographical questionnaire: "*In the event that you were exposed to a particularly stressful experience at work, who are you most likely to discuss the event with?*".

Participants were asked to select one of the following: *Colleague, Spouse/Partner, Friend, Family Member, Religious Leader, Counsellor/Psychologist* or *Doctor*.

No formal stress inventory was used to assess the stressors since the aim of the current study was to conceptualise burnout and coping, as opposed to stress, within paramedics. This was a departure from other South African studies of occupational stress, burnout and coping (Naudé & Rothmann, 2003: 2006). However, the nature of occupational stressors was investigated via an open-ended question in the biographical questionnaire. The participants were asked to answer the following; "*In your experience, what kind of work related incident would you find particularly stressful?*

The data obtained in response to the open-ended question was analysed using the qualitative content analysis method. This method was deemed appropriate since the aim of the question was to elicit particular themes, presented in an exploratory manner. Priest, Roberts and Woods (2002) noted that content analysis is particularly suited to exploratory studies since text is coded to support the generation of ideas. In the current study, the main analytic categories were known; those outlined by Sparrius (1992) in Naudé & Rothmann (2003) which included Extra-organisational stressors, Organisational stressors and Individual stressors. Due to the relatively small effect size, an allowance was made for an overlap of themes that may be suited to one or more categories. The analysis was conducted manually and the key concepts or master codes were generated (Woods, Priest & Robert, 2002). The text was revised and further sub-codes emerged (*ibid*). The themes/codes were then counted and several significant themes were discussed under the broader categories of Extra-Organisational, Organisational and Individual stressors.

3.9 Statistical Analysis

Statistical analysis of data in this study was performed out using The Statistical Package for Social Sciences (SPSS) (SPSS Inc., 2003) Statistical analyses aid researchers to describe the data and make inferences or claims about the population sampled (Durrheim, 1999a). It was important to decide upon the nature of the claim or the type of investigation warranted, by appealing to the aims of the study in question. There are two common types of statistics, descriptive and inferential statistics, which assist the researcher to make principled arguments regarding the study variables (Durrheim, 1999a). The current study was both descriptive and

exploratory, with the researcher seeking to describe the variables which exist within this sample and investigate the relationships between variables. Therefore, both descriptive and inferential statistics were used in the analysis of data obtained in the current study.

3.9.1 Descriptive Statistics.

Descriptive data represent and summarise scores obtained on single variable (Durrheim, 1999a). Descriptive analyses investigate the distribution of scores for each variable and are usually conducted as a first step in the analysis since the descriptive help the researcher to gain an initial impression of the study data (*ibid*).

According to Durrheim (1999a), "measures of central tendency are estimates of the centremost score in the distribution" (p. 105). These measures give the researcher a general sense of the numbers and comprise of a number of statistics which reflect the centremost point of the distribution (Howell, 2002). There are three measures of central tendency, the mode, the median and the mean, and they differ in terms of how they make use of the data (*ibid*).

The mode is the category with the highest frequency and/or most commonly occurring score and is based on a few data points, that is, the score obtained from the largest number of subjects in distribution (Durrheim, 1999a & Howell, 2002). The median represents the middlemost score in a ranked data set and is the score that corresponds with the point in the distribution where 50% fall below this score and 50% fall above this score (Howell, 2002). The median is often referred to as the 50^{th} percentile and of all three measures of central tendency; the median is the least dependant on the actual scores in the distribution (*ibid*). The third measure of central tendency, the mean, is the most common measure and is calculated from all the data in the data set and represents that average arithmetic values in a data set (Durrheim, 1999a).

Measures of dispersion or measures of variability estimate the degree to which variables are dissimilar form one another and estimate the degree to which the scores deviate from measures of central tendency (Durrheim, 1999a). Measures of diversion also indicate the clusters of observations occurring around the measures of central tendency (Howell, 2002). Most measures of dispersion refer specifically to the deviation from the mean as they form the basis of inferential statistics (*ibid*). The most common measures are the range, the variance and the standard deviation.

The range is the difference between the largest and smallest value on a variable and is often used for comparing the actual range and the possible range (i.e. the difference between the lowest and highest possible scores on a measure) (Durrheim, 1999a). The range, however, is reliant on extreme scores and therefore, may present a distorted picture of deviation (Howell, 2002). The interquartile range is used to overcome this disadvantage since it is obtained by discarding 25% of the upper and lower scores and represents 50% of the observations falling between the 25^{th} and 75^{th} percentile (*ibid*). It is possible to select on the amount of data discarded from a sample. Samples which have had a certain percentage (e.g. 10%) of observations removed from the analysis are referred to as trimmed samples (*ibid*).

The variance measures the average distance that a score can lie from the mean (Durrheim, 1999a). There are two types of variance, the sample variance and the population variance. Howell (2002) noted that although the variance is important statistic, it is based on squared deviations which have little meaning in relation to data. The standard deviation represents a solution to this problem since it is the square root of the variance (Howell, 2002). The standard deviation, a type of average deviation, represents how many scores fall no more than a specified value (i.e. the standard deviation) above or below the mean (*ibid*).

3.9.2 Inferential Statistics.

Inferential statistics include all statistical analyses which attempt to determine the relationships between variables in the sample, estimate population parameters and investigate the probability that results obtained are applicable to the general population (Durrheim, 1999a). Bivariate statistics are used to determine the relationship between two variables and the relationship between more than two variables are identified using multivariate statistics (Durrheim, 1999a). Level of significance relates to the degree of probability that the differences between scores can be attributed to random sampling variation. As noted by Tredoux and Smith (1999), "significance testing is at the mercy of the sample size" (p. 351) and can be problematic when applied to samples with modest effect sizes. Traditionally, a probability of 0.05 (or 5% level of significance) is used; however, some researchers argue that the value of 0.05 as the level of significance for social science statistics is totally arbitrary (Tredoux & Smith, 1999).

Inferential statistics are separated into two broad categories; parametric and non-parametric statistical procedures. In the cases where non- parametric techniques are utilised, the

focus of the analysis is on the order or ranking of scores (i.e. categorical data), as opposed to the numerical value of the individual scores (Tredoux & Smith, 1999). The measure of central tendency for non-parametric tests is the median (*ibid*). The mean is the most common measure of central tendency for parametric tests since the numerical value of scores is important (*ibid*). Both parametric and non-parametric statistics were used in this study and each will be described below.

3.9.2.1 The Kolmogorov-Smirnov test. Most statistical procedures (e.g. t-test, ANOVA and regression) are based on the assumption that the sample of observations is normally distributed (Howell, 2002). When the data are normally distributed, fairly precise probability statements regarding the study variables and probabilities can be made (Tredoux & Smith, 1999). The Kolmogorov-Smirnov test (*KS-test*) is a test of normality employed in the current study which tests for the presence of experimentally-determined distributions (Lilliefors, 1967). The test uses simple procedure that determines discrepancy between expected and observed distributions. The KS-Test is non- parametric and can be used with small sample sizes, as is evident in the current study (N=56) (Lilliefors, 1967).

3.9.2.2 Correlations. Correlations measure the strength of the covariation between two random variables (Durrheim, 1999a). A correlation indicates how closely the two variables are related but does not determine causality between the variables (*ibid*). Person's r or Person's product-moment correlation is the most commonly cited correlation statistic (*ibid*). Tests of correlation determine the strength of the relationship and the direction of the correlation; the association between variables may be positive or negative with correlation coefficients ranging from 1 (perfect positive correlation) to –1 (perfect negative correlation) (Howell, 2002). The main assumption associated with correlation is that of linearity of regression, namely that the relationship between the two random variables (X and Y) is linear and can be best represented along a straight line (*ibid*). Correlations, as a statistical procedure, are utilised in the current study since one of the aims of the study is to assess the relationships between Sense of Coherence and the dimensions of burnout.

3.9.2.3 Multiple regression. Multiple regression is one of the statistical methods for understanding the complexity of relationships between variables. According to Tredoux and Pretorius (1999) multiple regression allows a researcher to find the combination of independent variables that maximally predicts a dependent variable. Significant regression coefficients

indicate that the independent variable makes a significant contribution to the dependent variable; a contribution that is better-than-chance levels (Tredoux & Pretorius, 1999). Multivariate cases involve three or more variables or more than one independent variable and stepwise multiple regression involves forward selection procedures (Howell, 2002). With reference to forward selection, before the researcher adds a new variable to the model, he/she will ask whether a variable from the previous step in the analysis should be removed on the basis that it is no longer making a significant contribution to the regression model (i.e. excluded variables) (*ibid*). In the present study, the complexity of the relationships between Sense of Coherence and burnout dimensions is further explored utilising multiple regression.

3.9.2.4 The Mann-Whitney test. The Mann-Whitney test is a non-parametric version of the T-test and a derivative of the Wilcoxon rank-sum test. The Mann-Whitney is based on the assumption that the two samples were randomly drawn from the same population (Howell, 2002). Although the Mann-Whitney test is not subject to the same stringent assumptions as the T-tests, the non-parametric equivalent has two major limitations; the first being that if no significant difference is found, it is not possible to state that the samples are the same and the second that the test compares medians as opposed to means (*ibid*). This test was performed in the current study due to the presence of modest category sizes.

3.9.2.5 The Kruskall-Wallis test. The Kruskall-Wallis one-way analysis of variance is the non-parametric equivalent of the Analysis of Variance (ANOVA). This data analysis technique examines the significance of independent variables in a study (Durrheim, 1999a). According to Howell (2002), the Kruskall-Wallis Test is based on the hypothesis that all samples were drawn from the identical populations and, like the Mann-Whitney Test; this test is particularly sensitive to deviations in central tendency.

3.9.2.6 The T-Test. A one sample T-Test involves comparing a sample mean with a normative or population value to determine significant differences, while a two sample T-test compares two sample means (Tredoux & Smith, 1999). A one-sample T-test is used in this study since the focus of interest is data collected from one sample only (N=56).

3.10 Conclusion

Research methodology, outlined in Chapter Three, was informed by the aims of the current research. The specific hypotheses were derived from the aims and the sample was

selected accordingly. The data analysis procedures, discussed in this chapter, were utilised to obtain the results presented in Chapter Four.

Chapter Four: Presentation of Results

4.1 Introduction

The following chapter presents the results of both the qualitative content analysis and statistical analysis of data. The findings associated with the support systems endorsed by this sample of paramedics are presented, followed by the results of the thematic content analysis of data pertaining to the types of paramedic stressors. The descriptive statistics will be outlined, and finally, the inferential statistics section covers those statistics which support or refute the study hypotheses.

4.2 Qualitative Findings

The qualitative data pertaining to the type of stressors experienced by this group of paramedics were analysed via thematic content analysis (Priest *et al.*, 2002 & Woods *et al.*, 2002). Qualitative findings relate to the support systems accessed by the paramedics in this study and occupational stressors that are experienced as particularly stressful by participants.

4.2.1 Support Systems

The participants were requested to select one option from the list of support sources (Table 2). However, 10 participants specified 2 support systems (e.g. Spouse/Partner and Colleague), 1 participant recorded 3 support systems and one other endorsed 4 support systems. The support systems are presented in Table 2. Seventy-two responses were recorded; with *Colleague* being the highest category endorsed (24 responses), *Spouse/Partner* (19 responses) proving to be the second highest and *Friends* (15 responses) were third. There was a marked discrepancy between the three highest categories of support and the remaining five categories. Three participants indicated that they did not access support from any source (*Other: Nobody:* 3 responses). In addition, data indicated a noteworthy trend; namely the under utilisation of professional support systems which included *Doctor* (1 response), *Counsellor/Psychologist* (3 responses) and *Religious Leader* (1 response) category. This indicated that the participants are more likely to use informal support networks (e.g. *Colleague, Spouse/Partner, Friend* and *Family Member*= 64 responses) as opposed to professional support (5 responses).

It must be noted that there may have been an overlap in the highest 4 categories, as it is possible that a colleague may also be a spouse, partner or friend (i.e. two employees are dating/married or are social friends). In addition, the family member category may be apply to spouses or colleagues who are relatives.

Table 2.

Support systems accessed by participants (72 responses)

Type of Support System	Number of responses
Informal Support Networks (89%)	
Colleague	24 (33%)
Spouse/Partner	19 (26%)
Friend	15 (21%)
Family Member	6
Formal Support Networks (7 %)	
Counsellor/Psychologist	3
Religious Leader	1
Doctor	1
No Support accessed (4%)	3

4.2.2 Occupational Stressors

The majority of the participants cited two or more stressors and a total of 94 responses were recorded (Table 3). In most cases, the responses were delivered in brief, point form. The occupational stressors were divided into categories: *Extra-organisational stressors, Organisational stressors* and *Individual stressors* (Sparrius, 1992, as cited in Naudé & Rothmann, 2003).

Table 3.

Categories of Perceived Stressors (104 Responses)

Type of Stressor	Number of statements
Extra-organisational stressors (8% of overall statements)	
Absence of occupational status	5
Insufficient of remuneration	3
Organisational Stressors (23 % of overall statements)	
Conflict with senior management	8
Perceived co-worker incompetence	7
General conflict in the workplace	9
Individual Stressors (69% of overall statements)	
Case-related Stressors	44 (*42%*)
Paediatric death/injury	24
Multiple Injuries (e.g. MVAs)	7
Injury to participants' significant others	4
Rape Cases	1
Suicide Cases	1
Domestic Violence	2
General Trauma	5
Job-task Stressors	28 (27%)
Dealing with significant others and bystanders	6
Hostile working conditions	3
Lack of resources	3
Excessive paper work	3
Shift work	9
Miscellaneous	4

4.2.2.2 Organisational stressors. Twenty-three percent (23%) of all stressors cited by the participants were stressors of an organisational nature. Conflict with senior staff or senior management included themes of managerial rigidity: *uncompromising management* and

Bureaucracy; and a perceived *lack of transparency* in within the organisation. In addition, management was perceived as being unfair: *unfair labour practices and dispute settlements.* The impact of organisational stressors was summarised in the statement: *admin/politics/management (sic) often more stressful than work itself.* Conflict among co-workers related mainly to issues of defamation by co-workers: *Deformation (sic) of character by work colleague* and *In-service persecutions by other staff members.* Perceived co-work incompetence may impact on individual job performance and may be closely related to conflict among staff members; *Not getting the correct information from dispatch.*

4.2.2.3 Individual stressors. Individual stressors were the most frequently cited type of stressors, representing 69% of the overall responses. This category was further divided into *Case- related stressors* and *Job-task stressors*.

Case-related stressors, those stressors relating specifically to the nature of the emergency care intervention and the circumstances regarding the intervention (i.e. the type of emergency), were cited in 42 % of the responses regarding work occupational stressors. Case-related stressors were the most frequently endorsed type of stressor indicating that this type of stressor may be the greatest source of stress for this group. Instances of paediatric death or injury were cited as an overwhelming case-related stressor (23% of all responses): *Children who red code, Death of paediatric MVA (Taxi)* and *Young patients killed in violence or accidents*. The nature of impact of this stressor may relate to a sense of helplessness on behalf of the paramedics, as highlighted in the following: *Any accident that involves children (e.g. near drowning, MVA) or when they are very sick and can't tell you what's wrong with them.* Other cases that were experienced as particularly stressful included cases involving injury to multiple patients: *Massive graphic polytrauma with dismemberment* and *long entrapments* (7%). These cases were also characterised by a sense of helplessness and/or being unable to meet the demands of the situation: *Incident with multiple casualties and you don't know where to start* and *Major scene-too many injured patients (too few staff/vehicles).* Injury to paramedics' significant others (family or friends) was cited as an additional Case-related stressor as well as call-outs involving victims of rape, suicide and domestic violence.

Job-task stressors are those additional aspects of the job that are an unavoidable part of the job (i.e. shift work, dealing with bystanders and working in hostile conditions). Job-task stressors were identified in 27% of the responses. It was evident that this group found it difficult

to manage the primary patient's significant others at the scene: *Dealing with the patient family while trying to treat the patient* and *When the family or friends of the deceased are closely involved or around. Usually in a trauma setting.* In addition, paramedics are often required to inform the patients' family of injury or death of the patient: *Explaining to the family that their loved one has past on (died).* Shift work was cited as having an impact on the staff and the unpredictable nature of call-outs was highlighted in the following statement: *Suddenly being dispatched on a long distance so we don't know what time we will be home.* The administrative work and lack of resources were identified as stressors. Unspecified stressors included *everything, any kind of trauma* and *getting to a scene where an SAB truck has overturned and the tow truck drivers have taken the left-overs.*

4.3 Descriptive Statistics

Descriptive analyses of the data obtained from the MBI-HSS and OLQ were conducted prior to the tests of significance.

Maslach *et al.* (1996) proposed a categorical scoring system for the burnout dimensions that included *Low*, *Moderate/average* and *High*. It must be noted that there is no composite score for burnout. Table 4 outlines the categorical scoring system and represents the different frequency of scores in each category.

Table 4.

Scoring Categories for the MBI-HSS

Burnout Dimension	High	Moderate	Low	Min-Max Scores
Emotional Exhaustion	27 and over	17-25	0-16	0-56
Depersonalisation	13 and over	7-12	0-6	0-30
*Personal Accomplishment	39 and over	32-38	0-31	0-48

Note: *Scored in the opposite direction from EE and DP. PA is presented as a positive dimension where the ideal is High Personal Accomplishment.

Maslach *et al.* (1996) noted that using the full range of original numerical scores obtained on each burnout dimension enhances statistical analyses since that the categories are primarily

used when giving verbal feedback for respondents. However, it is possible to refer to the categories when discussing descriptive statistics.

Table 5 indicated that as a group, these paramedics are experiencing Moderate Emotional Exhaustion, Moderate Depersonalisation and Moderate Personal Accomplishment. The three dimensions of Sense of Coherence, namely Manageability, Meaningfulness and Comprehensibly, hold no statistically reliable and valid interpretation, however, it is possible to deduce, that within this group, Manageability appeared to be the strongest Sense of Coherence component followed by Comprehensibility and, finally, Meaningfulness.

It must be noted that the raw data suggested a polarised pattern of response on the Emotional Exhaustion and Depersonalisation subscales. In most instances, the respondents had a tendency to indicate extreme scores; either those falling on the low end of the scale or those falling on the upper end of the scale. As a result, the range of scores obtained on these dimensions (Emotional Exhaustion range; 0-50 and Depersonalisation range 0-29) varied and a flat distribution was obtained. In comparison, most participants indicated scores falling within the upper end of the Personal Accomplishment scale (range: 18-49) and, although the range of Sense of Coherence scores appeared large (range: 41-178), most of the respondents endorsed scores falling on the upper end of the continuum.

Table 5.

Descriptive statistics for Burnout and Sense of Coherence (N=56)

Variable	Mean	Median	Std.dev	Range
Emotional Exhaustion	21.52	21.00	21.02	0-50
Depersonalisation	10.86	9.00	8.57	0-29
Personal Accomplishment	36.71	37.00	7.95	18-47
Sense of Coherence	133.66	137.50	28.97	41-178
*SOC: Comprehensibility	44.11	45.00	10.41	17-63
*SOC: Manageability	47.46	51.00	11.26	10-68
*SOC: Meaningfulness	42.09	43.50	9.66	14-56

Note: *Components of the composite SOC score

Table 6.

Burnout Dimensions in Categories (N=56)

Variable	Frequency	Percentage
Emotional Exhaustion		
High	19	33.9
Moderate	18	32.1
Low	19	33.0
Total	56	100
Depersonalisation		
High	20	35.7
Moderate	11	19.6
Low	25	44.7
Total	56	100
Personal Accomplishment		
High	25	44.6
Moderate	16	28.6
Low	15	26.8
Total	56	100

Descriptive representations of the three categories (Table 6.) revealed the following findings; Emotional Exhaustion was evenly distributed across the sample, with 33.9% of the sample experiencing burnout symptoms that fell with the High Emotional Exhaustion range, 32.1 % experienced Moderate Emotional Exhaustion and 32.1% of the sample experienced Low Emotional Exhaustion. There were differences in the prevalence of High, Moderate and Low Depersonalisation and Personal Accomplishment in this sample of paramedics. Although 35.7% of the sample was experiencing symptoms of indicative of High Depersonalisation, almost half of the participants (44.6%) reported Low Depersonalisation. Only 19.6% of the group reported experiencing symptoms that fell within the Moderate Depersonalisation category. This indicated that there may to two extreme groups within this sample; those suffering from High Depersonalisation and those experiencing few symptoms of Depersonalisation (i.e. Low Depersonalisation). For Personal Accomplishment, almost half the participants endorsed items

that fell within the High Personal Accomplishment category (44.6%) while 28.6% of the group reported symptoms that fell with the Moderate category, and 26.8%, in the Low Personal Accomplishment category.

4.4 Inferential Statistics

Inferential statistics include all statistical analyses which attempt to determine the relationships between variables in the sample, estimate population parameters and investigate the probability that results obtained are applicable to the general population (Durrheim, 1999a). The following section highlights all inferential analyses relevant to the aims and hypotheses of the current study.

The Kolmogorov-Smirnov Test (Table 7.) indicated that the value of p is greater than 0.05 for all variables indicating that the data set is normally distributed i.e. all assumptions of normality were met.

Table 7.

One Sample Kolmogorov-Smirnov Test of Normality (N=56)

	Kolmogorov-Smirnov	
Variable	*Z*	*p*
Emotional Exhaustion	0.57	0.90*
Depersonalisation	1.07	0.20*
Personal Accomplishment	0.70	0.72*
Sense of Coherence	0.93	0.35*

Note: Test distribution is normal

*p> 0.05

4.4.1 Hypothesis One (H1)

There is a significant negative correlation between Sense of Coherence and the Emotional Exhaustion component of burnout.

The value of p for inter correlations was less 0.05, indicating that Hypothesis one (H1) was supported at the 5 % level of significance (Table 8.). Therefore, there was a statistically significant, moderate negative correlation between Sense of Coherence and Emotional Exhaustion. Within the sample group, results suggested that those who possess a strong Sense of Coherence are less likely to suffer from symptoms of Emotional Exhaustion.

4.4.2 Hypothesis Two (H2)

There is a significant negative correlation between Sense of Coherence and Depersonalisation.

Since the value of p was less than 0.05 and Hypothesis Two (H2) is supported at 5% level of significance (Table 8.). There was a statistically significant, moderate negative association between Sense of Coherence and Depersonalisation. This finding indicated that those paramedics who possess an enhanced Sense of Coherence are less susceptible to Depersonalisation.

4.4.3 Hypothesis Three (H3)

There is a significant positive relationship between Sense of Coherence and Personal Accomplishment.

The p value was less than 0.05 at the 5% level of significance (Table 8.). Hypothesis Three (H3) was supported; there was a statistically significant positive and moderate correlation between Sense of Coherence and Personal Accomplishment. Results suggested that, within this group of paramedics, those who possess a strong Sense of Coherence are likely to gain an enhanced sense of Personal Accomplishment from their work.

Other correlations, shown in Table 8., pertaining to burnout subscale scores that were significant at the 5% level of significance included the statistically significant positive correlation between Emotional Exhaustion and Depersonalisation. According to this finding, those paramedics who suffer from symptoms of Emotional Exhaustion may be more susceptible to Depersonalisation and vice versa. A statistically significant negative correlation between Personal Accomplishment and both Emotional Exhaustion and Depersonalisation was observed at the 5% significance level, indicating that those participants who derive greater Personal Accomplishment from their work are less likely to experience symptoms of Emotional

Exhaustion and Depersonalisation than those who do not feel a sense of Personal Accomplishment when working.

Table 8.

Pearson Correlation between Sense of Coherence and Burnout (N=56)

		1.	2.	3.	4.
1.	Emotional Exhaustion	1	0.60**	-0.28*	-0.58**
2.	Depersonalisation	0.60**	1	-0.35**	-0.40**
3.	Personal Accomplishment	-0.28*	-0.35**	1	0.49**
4.	Sense of Coherence	-0.58**	-0.40**	0.49**	1

**. Correlation is significant at the 0.01 level (2-tailed)

*. Correlation is significant at the 0.05 level (2-tailed)

4.4.4 Hypothesis Four (H4)

Sense of Coherence, Depersonalisation and Personal Accomplishment predicts Emotional Exhaustion in paramedics.

Results from the regression analyses (Table 9.) indicated that when Emotional Exhaustion was the dependent variable Depersonalisation and Sense of Coherence had a statistically significant impact on Emotional Exhaustion at the 5% level of significance. Sense of Coherence and Depersonalisation explained 50% of the variance in Emotional Exhaustion. Depersonalisation, as a single variable, had a statistically significant impact on Emotional Exhaustion at the 5% level of significance and explained 36% of the variance in Emotional Exhaustion. Personal Accomplishment was a poor predictor of Emotional Exhaustion at the 5% level of significance. Hypothesis Four (H4) was partially accepted. This finding indicated that if participants possess a strong Sense of Coherence and are experiencing fewer symptoms of Depersonalisation, they are less likely to suffer from symptoms of Emotional Exhaustion. The degree of Personal Accomplishment derived from work did not appear to have an impact on the development of Emotional Exhaustion.

Table 9.

Stepwise Multiple Regression: Emotional Exhaustion

Model	R	R2	Adjusted R2	Std. Error of the estimate
1	0.60(a)	0.36	0.35	9.78
2	0.71(b)	0.50	0.48	8.67

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2840.32	1	2840.32	30.05	0.00 (a)
	Residual	5103.67	54	94.51		
	Total	7943.98	55			
2	Regression	3962.08	2	1981.03	26.37	0.00 (b)
	Residual	3981.91	53	75.13		
	Total	7943.98	55			

Coefficients (Dependant Variable: Emotional Exhaustion)

Model		Unstandardised coefficients		Standardised coefficients		
		B	Std. Error	B	t	p
1.	Constant	12.411	2.11	0.60	5.89	0.00
	Depersonalisation	0.84	0.15	0.69	5.48	0.00
2.	Constant	37.62	6.80		5.54	0.00
	Depersonalisation	0.61	0.15	0.44	4.10	0.00
	Sense of Coherence	-1.70	0.04	-0.41	-3.86	0.00

(a) Predictors: (Constant), Depersonalisation

(b) Predictors: (Constant), Depersonalisation, Sense of Coherence

Note: Personal Accomplishment is excluded (p=0.36)

4.4.5 Hypothesis Five (H5)

Sense of Coherence, Emotional Exhaustion and Personal Accomplishment predicts Depersonalisation in paramedics.

When Depersonalisation was the dependent variable (Table 10), results of the regression analysis indicated that Sense of Coherence and/or Personal Accomplishment were not significant predictors of Depersonalisation at the 5% level of significance. Emotional Exhaustion explained 36% of the variance in Depersonalisation and, at the 5% level of significance, was a good predictor of Depersonalisation. Hypothesis Five (H5) was partially accepted. Within this sample group, findings suggested that those who are Emotionally Exhausted are likely to experience symptoms of Depersonalisation, while possessing a strong Sense of Coherence or Personal Accomplishment does not influence Depersonalisation.

4.4.6 Hypothesis Six (H6)

Sense of Coherence, Emotional Exhaustion and Depersonalisation predicts Personal Accomplishment in paramedics.

Results of the regression analysis, when Personal Accomplishment was the dependent variable (Table 11.), indicated that Sense of Coherence was the only statistically significant predictor of Personal Accomplishment, at the 5% level of significance. Sense of Coherence explained 24% of the variance in Personal Accomplishment. Emotional Exhaustion and Depersonalisation were excluded from the model on the basis of being poor predictors of Personal Accomplishment at the 5% level of significance. Based on these findings, Hypothesis Six (H6) was partially accepted. This finding suggested that participants who posses a strong Sense of Coherence will derive enhanced Personal Accomplishment from their work. Symptoms of either Depersonalisation or Emotional Exhaustion may not have a negative impact on an individual's feelings of competence, productivity and achievement at work (Personal Accomplishment).

Table 10.

Stepwise Multiple Regression: Depersonalisation

Model	R	R2	Adjusted R2	Std. Error of the estimate
1	0.60(a)	0.36	0.35	6.93

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1443.35	1	1443.35	30.05	0.00 (a)
	Residual	2593.51	54	48.03		
	Total	4036.86	55			

Coefficients (Dependant Variable: Depersonalisation)

Model		Unstandardised coefficients		Standardised coefficients		
		B	Std. Error	B	t	p
1.	Constant	1.69	1.91		0.90	0.38
	Emotional Exhaustion	0.43	0.08	0.60	5.48	0.00

(a) Predictors: (Constant), Emotional Exhaustion

Note: Personal Accomplishment is excluded (p=0.93)

Sense of Coherence is excluded (p=0.66)

4.4.7 Hypothesis Seven (H7)

There are significant differences in the dimensions of burnout (Emotional Exhaustion, Depersonalisation and Personal Accomplishment) and Sense of Coherence between men and women.

The Mann-Whitney test (Table 12.) indicated that the value of *p* was greater than 0.05 for Emotional Exhaustion, Depersonalisation, Personal Accomplishment and Sense of Coherence at 5% significance level. Therefore, there were no statically significant differences in the

dimensions of burnout and Sense of Coherence between men and women and Hypothesis Seven (H7) is rejected. Results suggested that men and women in the current sample are equally susceptible to developing symptoms of burnout. In addition, there were no differences in the presence of Sense of Coherence among gender groups.

Table 11.

Stepwise Multiple Regression: Personal Accomplishment

Model	R	R2	Adjusted R2	Std. Error of the estimate
1	0.49(a)	0.24	0.22	7.00

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	821.64	1	821.64	16.73	0.00 (a)
	Residual	2651.79	54	49.11		
	Total	3473.43	55			

Coefficients (Dependant Variable: Personal Accomplishment)

Model		Unstandardised coefficients		Standardised coefficients		
		B	Std. Error	B	t	p
1.	Constant	18.88	4.46		4.23	0.00
	Sense of Coherence	0.13	0.33	0.49	4.09	0.00

(a) Predictors: (Constant), Sense of Coherence

Note: Emotional Exhaustion is excluded (p=0.93)

Depersonalisation is excluded (p=0.16)

Table 12.

Mann-Whitney: Burnout, Sense of Coherence and Gender (N=56)

	Male (*N*=40)		Female (*N*=16)	
	M	*SD*	*M*	*SD*
Emotional Exhaustion	22.25	12.67	19.69	10.36
Depersonalisation	11.78	9.39	8.56	5.65
Personal Accomplishment	36.63	8.22	36.94	7.46
Sense of Coherence	130.38	30.89	141.88	22.24

	Mann-Whitney U (a)		
	U	*Z*	*p*
Emotional Exhaustion	267.00	-0.96	0.34
Depersonalisation	276.50	-0.79	0.43
Personal Accomplishment	315.50	-0.08	0.94
Sense of Coherence	257.00	-1.14	0.25

(a) Grouping Variable: Gender

4.4.8 Hypothesis Eight (H8)

There are significant differences in the dimensions of burnout (Emotional Exhaustion, Depersonalisation and Personal Accomplishment) and Sense of Coherence between age groups.

In Table 13, the *p* value was greater than 0.05 for Emotional Exhaustion, Depersonalisation and Sense of Coherence indicating that there were no statistically significant differences between Emotional Exhaustion, Depersonalisation and Sense of Coherence and age at the 5% level of significance. However, there was a statistically significant difference between age and Personal Accomplishment since the *p* value was less that 0.05 at the 5% significance level. This indicated that Hypothesis Eight (H8) was partially supported. Further analyses were conducted regarding Hypothesis Eight.

Table 13.

Kruskall-Walllis Test: Burnout, Sense of Coherence and Age

	18-25 yrs (*N*=9)		26-30 yrs (*N*=18)		31-35 yrs (*N*=17)	
	M	*SD*	*M*	*SD*	*M*	*SD*
Emotional Exhaustion	18.78	10.16	24.56	13.01	19.53	13.3
Depersonalisation	11.22	8.79	14.00	10.01	8.18	5.77
Personal Accomplishment	38.22	5.56	36.00	7.87	38.35	7.86
Sense of Coherence	124.78	38.15	132.39	29.94	137.12	22.48

	36-40 yrs (*N*=7)		41+ yrs (*N*=5)		Total (*N*=56)	
	M	*SD*	*M*	*SD*	*M*	*SD*
Emotional Exhaustion	25.29	7.20	17.00	12.94	21.52	12.02
Depersonalisation	10.71	7.61	8.20	11.17	10.86	8.57
Personal Accomplishment	28.57	7.35	42.40	6.35	36.71	7.95
Sense of Coherence	123.86	32.70	156.20	12.40	133.66	28.97

	Kruskall-Wallis Chi-Square (a)		
	X2	*df*	*p*
Emotional Exhaustion	3.97	4	0.41
Depersonalisation	4.03	4	0.40
Personal Accomplishment	9.88	4	0.04*
Sense of Coherence	5.23	4	0.26

(a) Grouping Variable: Age

*p<0.05

The data were re-grouped into two categories for the Independent T-test (Table 14). The 18-30 years category included data from the 18-25 years and 26-30 years categories, and 31+

years, was made up with data from the 31-35 years, 36-40 years and 41+ years categories. However, the *p* value was greater than 0.05 for all burnout dimensions, indicating that at the 5% level of significance, Hypothesis Eight was rejected, when the data are collapsed into two categories. This finding also indicated that the statistically significant differences in age and burnout may lie in the grouping of categories, namely the differences in initial categories of 18-25 years, 26-30 years, 31-35 years, 36-40 years and 41+ years. This was further investigated using the Mann-Whitney Test which analysed the difference between the dimensions of burnout and pairs of age groups.

Table 14.

Independent T-Test: Burnout and Age

	18-30 yrs (*N*=27)		31+ yrs (*N*=29)	
	M	*SD*	*M*	*SD*
Emotional Exhaustion	22.63	12.26	20.48	11.92
Depersonalisation	13.07	9.54	8.79	7.10
Personal Accomplishment	36.74	7.15	36.69	8.75

	Equal variances assumed (a)		
	t	*df*	*p*
Emotional Exhaustion	0.67	54	0.51
Depersonalisation	1.91	54	0.06
Personal Accomplishment	0.24	54	0.98

(a) Grouping Variable: Age

Since the *p* value was less than 0.05 for Personal Accomplishment at the significance level of 5% (Table 15.), there were statistically significant differences in Personal

Accomplishment and the 18-25 year group and the 36-40 year group. No statistically significant differences were found for Emotional Exhaustion and Depersonalisation for the two age groups.

Table 15.

Mann-Whitney Test: Burnout and Age (18-25 years and 36-40 years)

	Mann-Whitney (a)		
	U	*Z*	*p*
Emotional Exhaustion	17.50	-1.49	0.14
Depersonalisation	30.00	-0.16	0.87
Personal Accomplishment	9.00	-2.39	0.02*
Sense of Coherence	30.00	-0.16	0.87

(a) Grouping Variable: Age (18-25 years) and (36-40 years)

*p<0.05

The *p* value was less than 0.05 for Personal Accomplishment at the significance level of 5% (Table 16.), indicating that were statistically significant differences in Personal Accomplishment and the 26-30 year group and the 36-40 year group. No statistically significant differences in Emotional Exhaustion and Depersonalisation and age were found on this test.

The *p* value was less than 0.05 for Personal Accomplishment at the significance level of 5% (Table 17.), indicating that there were statistically significant differences in Personal Accomplishment and the 31-35 year group and the 36-40 year group. The remaining dimensions, Emotional Exhaustion and Depersonalisation, were not statistically significant for the two age groups.

Table 16.

Mann-Whitney Test: Burnout and Age (26-30 years and 36-40 years)

	Mann-Whitney (a)		
	U	*Z*	*p*
Emotional Exhaustion	56.50	-0.39	0.69
Depersonalisation	49.00	-0.85	0.40
Personal Accomplishment	30.50	-1.97	0.05* (0.049)
Sense of Coherence	52.00	-0.67	0.51

(a) Grouping Variable: Age (26-30 years) and (36-40 years)

*p<0.05

Table 17.

Mann-Whitney Test: Burnout and Age (31-35 years and 36-40 years)

	Mann-Whitney (a)		
	U	*Z*	*p*
Emotional Exhaustion	41.00	-1.18	0.24
Depersonalisation	48.50	-0.70	0.48
Personal Accomplishment	20.50	-2.48	0.01*
Sense of Coherence	48.00	-0.73	0.47

(a) Grouping Variable: Age (31-35 years) and (36-40 years)

*p<0.05

In Table 18, the *p* value was less than 0.05 for Personal Accomplishment at the significance level of 5%, indicating that were statistically significant differences in Personal Accomplishment and the 36-40 year and 41+ year group. No statistically significant differences in Emotional Exhaustion and Depersonalisation and age were found on this test. The results of several analyses which investigated the variance in scores, indicated that those participants who

are between the ages of 36 years and 40 years, are more likely to derive a greater sense of Personal Accomplishment from their work than employees from other age groups.

Table 18.

Mann-Whitney Test: Burnout and Age (36-40 years and 41+ years)

	Mann-Whitney (a)		
	U	*Z*	*p*
Emotional Exhaustion	9.50	-1.30	0.19
Depersonalisation	10.00	-1.22	0.22
Personal Accomplishment	3.50	-2.28	0.02*
Sense of Coherence	6.00	-1.87	0.60

(a) Grouping Variable: Age (36-40 years) and (41+ years)

*p<0.05

4.4.9 Hypothesis Nine (H9)

There are significant differences in the dimensions of burnout and Sense of Coherence (Emotional Exhaustion, Depersonalisation and Personal Accomplishment) between race groups.

The *p* value was greater than 0.05 for Emotional Exhaustion, Depersonalisation, Personal Accomplishment and Sense of Coherence (Table 19.) indicating that there were no statistically significant differences between the three burnout components and race at the 5% level of significance. Hypothesis Nine (H9) was, therefore, rejected. Personal Accomplishment was significant at the less stringent 10% level of significance. Results suggested that burnout and Sense of Coherence was not specific to any race group sampled in this study (i.e. Asian, Black, Coloured, Indian or White participants).

Table 19.

Kruskall-Walllis Test: Burnout, Sense of Coherence and Race

	Asian/Indian (*N*=17)		Black (*N*=5)		Coloured (*N*=3)	
	M	*SD*	*M*	*SD*	*M*	*SD*
Emotional Exhaustion	18.89	13.06	27.00	12.67	18.33	17.56
Depersonalisation	7.41	7.47	14.40	7.86	7.00	7.55
Personal Accomplishment	40.18	6.74	37.40	8.02	28.67	6.03
Sense of Coherence	137.00	35.53	140.00	28.98	108.33	30.61

	White (*N*=31)		Total (*N*=56)	
	M	*SD*	*M*	*SD*
Emotional Exhaustion	22.55	10.95	21.52	12.02
Depersonalisation	12.55	8.92	10.86	8.57
Personal Accomplishment	35.48	8.10	36.71	7.95
Sense of Coherence	133.26	24.76	133.66	28.97

	Kruskall-Wallis Chi-Square (a)		
	X2	*df*	*p*
Emotional Exhaustion	2.85	3	0.42
Depersonalisation	5.98	3	0.11
Personal Accomplishment	7.44	3	0.06
Sense of Coherence	3.76	3	0.29

(a) Grouping Variable: Race

4.4.10 Hypothesis Ten (H10)

There are significant differences in the dimensions of burnout (Emotional Exhaustion, Depersonalisation and Personal Accomplishment) and Sense of Coherence between marital status groups.

Since the *p* value was greater than 0.05 for all dimensions of burnout, Emotional Exhaustion, Depersonalisation, Personal Accomplishment and Sense of Coherence at the 5% significance level (Table 20.), Hypothesis Ten (H10) was rejected. There were no statistically significant differences in the dimension of burnout between marital status groups. Findings indicated that within the current sample, marital status (i.e. Married, Divorced/Separated or Single) had no influence on the development or hindrance of Sense of Coherence and/or symptoms of burnout.

4.4.11 Hypothesis Eleven (H11)

There are significant differences in the dimensions of burnout (Emotional Exhaustion, Depersonalisation and Personal Accomplishment) between job experience groups.

The Kruskall-Wallis test (Table 21.) indicated that the value of *p* was greater than 0.05 for Emotional Exhaustion; Depersonalisation and Personal Accomplishment at the 5% significance level. Therefore, there were no statically significant differences in the dimensions of burnout between job experience and Hypothesis Eleven (H11) was rejected. With reference to this sample of paramedics, increased number of years service within the emergency care field did not prevent the development of burnout symptoms and vice versa.

Table 20.

Kruskall-Walllis: Burnout, Sense of Coherence and Marital Status

	Divorced/ Separated (*N*=5)		Married (*N*=27)	
	M	*SD*	*M*	*SD*
Emotional Exhaustion	30.60	11.33	20.78	11.71
Depersonalisation	8.40	3.98	9.93	8.02
Personal Accomplishment	31.60	9.81	38.81	7.38
Sense of Coherence	121.60	33.01	142.89	20.88

	Single (*N*=24)		Total (*N*=56)	
	M	*SD*	*M*	*SD*
Emotional Exhaustion	20.46	12.18	21.52	12.02
Depersonalisation	12.42	9.75	10.86	8.57
Personal Accomplishment	35.42	7.75	36.71	7.95
Sense of Coherence	125.79	33.58	133.66	28.97

	Kruskall-Wallis Chi-Square (a)		
	X2	*df*	*p*
Emotional Exhaustion	3.02	2	0.22
Depersonalisation	1.08	2	0.58
Personal Accomplishment	3.24	2	0.20
Sense of Coherence	3.96	2	0.14

(a) Grouping Variable: Marital Status

Table 21.

Kruskall-Walllis Test: Burnout and Job Experience

	0-3 yrs (*N*=8)		4-6 yrs (*N*=15)		7-9 yrs (*N*=10)	
	M	*SD*	*M*	*SD*	*M*	*SD*
Emotional Exhaustion	17.75	8.52	24.93	14.16	20.90	11.49
Depersonalisation	12.13	10.27	11.93	8.70	11.00	9.25
Personal Accomplishment	34.75	9.91	35.53	7.96	37.50	6.65
Sense of Coherence	137.00	28.83	128.07	36.18	130.80	28.81

	10+ yrs (*N*=23)		Total (*N*=56)	
	M	*SD*	*M*	*SD*
Emotional Exhaustion	20.87	11.95	21.52	12.02
Depersonalisation	9.65	7.99	10.86	8.57
Personal Accomplishment	37.83	8.02	36.71	7.95
Sense of Coherence	137.39	24.84	133.66	28.97

	Kruskall-Wallis Chi-Square (a)		
	X2	*df*	*p*
Emotional Exhaustion	1.58	3	0.67
Depersonalisation	0.92	3	0.82
Personal Accomplishment	1.40	3	0.71
Sense of Coherence	0.68	3	0.89

(a) Grouping Variable: Job Experience (years)

4.5 Summary of Findings

Assessment of the support systems accessed by the paramedics in this study revealed that the participants were more likely to use informal support networks (e.g. *Colleague,*

Spouse/Partner, Friend and *Family Member*= 64 responses) as opposed to professional support (5 responses). Thematic content analysis revealed that the participants found Individual Stressors to be particularly stressful (76% of the overall responses), followed by Organisational Stressors (23% of the responses). Extra-Organisational stressors were the least endorsed type of stressor (8% of all responses). Within the Individual Stressor category, Case-related stressors were cited as particularly stressful, representing 61% of the Individual Stressors and a further 42% of all stressful incidents cited by the paramedics in this study.

Analysis of descriptive data revealed that the Emotional Exhaustion data was evenly distributed into the Low, Moderate and High categories across the sample, while there were variations in the High, Low and Moderate categories for Depersonalisation and Personal Accomplishment. In addition, Manageability appeared to be the strongest Sense of Coherence component within this sample. Inferential statistics revealed the following:

- Significant variability in Emotional Exhaustion and Depersonalisation scores, corresponding with the polarisation evident from the descriptive statistics (e.g. Means and Standard Deviations) was noted in analyses pertaining to Hypothesis Seven (Table 12.), Hypothesis Eight (Table 13. and Table 14.), Hypothesis Nine (Table 19.), Hypothesis Ten (Table 20.) and Hypothesis Eleven (Table 21.).
- The correlation matrix indicated that there were several distinct patterns of inter-correlation. Correlations were found between all dimensions of burnout and Sense of Coherence. Hypothesis One, Two and Three were supported
- Regression analyses revealed that Sense of Coherence and Depersonalisation predicts Emotional Exhaustion; Emotional Exhaustion predicts Depersonalisation and Sense of Coherence predicts Personal Accomplishment. Hypothesis Four, Hypothesis Five and Hypothesis were partially supported in all instances;
- There was a significant difference between age and Personal Accomplishment since the 36-40 age group was different from the other age groups in terms of Personal Accomplishment. Hypothesis Eight was partially supported.

4.6 Conclusion

In Chapter Four, the results of the qualitative and statistical analyses were presented. The Qualitative findings showed that this sample group utilised an informal support network. The

stressors, experienced by this group of paramedics, were predominately Individual stressors which was a departure from other studies as Organisational stressors were commonly highlighted as being particularly stressful. Statistical analyses indicated that there were significant relationships between Sense of Coherence and all burnout dimensions. Demographic differences in either Sense of Coherence or burnout were only evident within a select age group.

Chapter Five: Discussion of Findings

5.1 Introduction

The following chapter outlines a discussion of the findings obtained in this study. The nature of the occupational stressors and support systems will be reviewed, followed by the burnout and Sense of Coherence demographic findings. The final section will outline the relationship between Sense of Coherence and burnout relevant to the aims of the current study.

5.2 Support Systems

Findings showed that participants in the current study relied on a social support network as opposed to a professional, external support (*89% of all responses*). There are both positive and negative factors associated with this finding.

According to the stress buffering theory, accessing readily available social or interpersonal support networks may enhance an individuals' overall well being and mediate the negative effects burnout (Jenkins & Elliot, 2004 & Pines, 1984). Maslach *et al.* (1996) highlighted the importance of social support as a resource that mediates the effects of the job demands. Majority of the participants in this study endorsed a *Colleague* support system (*33% of all responses*). Several studies have found that a decline in collegial support, among nurses, firefighters and paramedics, was associated with an increase in burnout and/or stress symptomology (Beaton, *et al.*, 1997; Levert *et al.*, 2000; Lowery & Stokes, 2005 & Maslach & Leiter, 1996). As noted by Pines (1984), colleagues are important sources of *technical support*, *technical challenge* and *emotional support*. Colleagues may actively listen (*listening*) to each other, and since they share a similar *social reality*, they are likely to provide fellow colleagues with an accurate and realistic perspective during times of work-related stress. In addition, support from *Spouses/Partners* (*26% of all responses*) was found to be important to the participants. Spouses or romantic partner are important sources of *emotional support* and *emotional challenge* and they also share a social, non-occupational reality with the participants (*sharing of social reality*). Evidently, the participants in the current study had been exposed to all sources of support outlined by Pines (1984).

Alternatively, an over-reliance on social support and significant under-utilisation of professional or external support systems, as was evident in the current study, may prove

problematic for a number of reasons. Firstly, the inadequate dispersion of the effects of stress among colleagues may lead to further secondary trauma within this occupational group and colleagues who discuss occupational stressors with each other may run the risk of causing further secondary trauma in their peers (Regher, 2005). When anger and distress accumulates within the occupational group, employees may become cynical, emotionally exhausted and, ultimately, burnt out. An over-reliance on a spouse or partner for support may result in relationship difficulties within the family and family members may suffer from compassion fatigue as a result of attempting to provide on-going support for their paramedic partners (Regehr, 2005). Maslach *et al.* (1996) also note that inability to maintain adequate boundaries between work and family life may contribute to feelings of Depersonalisation and Emotional Exhaustion.

The group of paramedics sampled in the current study did not appear to utilise the professional support system despite having access to an organisation-funded counselling service. The reluctance of this group of paramedics to seek professional support (e.g. *Counsellors/Psychologists, Doctors* and *Religious Leaders*) indicated that an in-group out-group tend may exist within this group (Hammer *et al.*, 1986). This trend, coupled with the perception that paramedics should display a degree of 'emotional toughness' on the job, may contribute to the underreporting or denial of distress (Chew-Graham *et al.*, 2003; Hammer *et al.*, 1986 & Lowery & Stokes, 2005). In addition, the significant under-utilisation of a contract counselling services may indicate mistrust of the nature and aims of the help offered and some individuals may have concerns about confidentiality (Chew-Graham *et al.*, 2003). It is possible that the false belief may exist within this group; namely that the nature of their visits to a counsellor/psychologist would be reported to senior management and this may be used to discriminate against the employee in the future.

5.3 Occupational Stressors

Thematic analysis revealed stressors that were consistent with those found by Naudé and Rothmann (2003). However, the relative frequency and impact of occupational stressors identified in this study differed from those endorsed by emergency workers (N=405) in Gauteng (Naudé & Rothmann, 2003). Naudé and Rothmann (2003) found that insufficient personnel to handle large workloads, unnecessary call-outs, abuse by the public and/or dealing difficult customers or patients, inadequate/insufficient remuneration, lack of specialised staff, poor

motivation among co-workers, exposure to dangerous on-the-job situations, lack of recognition lack of opportunities for job enhancement were significant stressors rated on the Emergency Worker Stress Inventory (EWSI). In the current study, dealing with Paediatric injury or death (24%), shift work (9%), general conflict among co-workers (9%), conflict with senior management (8%), perceived co-worker incompetence (7%), working cases involving multiple injuries (7%) and dealing the patients' significant others (6%) were work events that were endorsed as being particularly stressful.

Four of the seven highest endorsed stressors pertained to Individual stressors that typically involved exposure to on-the-job trauma. With reference to the structural model of burnout proposed by Maslach *et al.* (1996), this may indicate high *emotional demands* associated with paramedic-patient interaction. Excessive emotional demands were associated with an increase in Emotional Exhaustion and a decrease in Personal Accomplishment (Maslach *et al.*, 1996). The high incident of Case-related stressors indicates the presence of secondary or vicarious trauma within this group, which has been associated with traumatic flashbacks, feelings of dissociation, anger/aggression, irritability, depression, memory loss and increased absenteeism (Kowalski & Vaught, 2001; Ortlepp & Friedman, 2001 & Regehr *et al.*, 2002). Although vicarious trauma has been associated with a high burnout prevalence, this group may not have been experiencing particularly high Depersonalisation since they did not, at the time of completing the questionnaires, exhibit an impersonal and callous response towards their patients. This was evident by the extreme number of Case-related stressors cited; results showed that this group was affected by the trauma of dealing with the sick, injured or dying.

Three of the seven most frequently endorsed stressors were Organisational stressors (i.e. *conflict with senior management, perceived co-worker incompetence* and *general conflict on the workplace)*. From a theoretical perspective, several structural burnout factors, identified by Maslach *et al.* (1996), may be present within this organisation including;

- *Emotional demands* relating specifically to personal conflict within the working environment may be present within this group, as evident from themes pertaining to general conflict among co-workers (9%), conflict with senior management (8%) and perceived co-worker incompetence. This may indicate increased Emotional Exhaustion and decreased Personal Accomplishment (Maslach *et al.*, 1996).

- *Breakdown of community* may be present due to the references made regarding conflict among co-workers, conflict between staff and management and perceived co-worker incompetence. The resultant underlying conflict and mistrust may serve to increase employee cynicism and inefficacy (Maslach *et al.*, 1996)
- *Work overload* may refer to the stressors associated with shift work. An excessive workload may disrupt collegial relationships, compromise employee well-being and lead to a decrease in the quality of care or service (*ibid*).
- *Lack of autonomy* was evident by the responses pertaining to conflict with senior management and bureaucracy within the organisation. Indeed, rigid management styles undermine an employee's sense of autonomy and decision making ability, may inadvertently, promote burnout among employees (Maslach *et al.*, 1996).
- *Insufficient reward, absence of fairness* and *conflicting values* did not appear to be significant within this group, at the time of data collection.

Working non-standard hours was found to be correlated with significantly higher burnout levels, job stress and health difficulties than those on a fixed day shift (Jamal, 2004). Shift work was identified as a stressor by this paramedic group (9%). An additional stressor cited in this study included dealing with bystanders or patients' significant others which may illustrate the presence of role ambiguity and role conflict. Both role ambiguity and role conflict have been found to correlate with an increase in burnout (Levert *et al.*, 2000).

Extra-organisational stressors were the least frequently endorsed stressors in the current study. This was contrary to findings by Naudé and Rothmann (2003) who noted that abuse by the public, inadequate remuneration, lack of specialised staff, poor motivation among co-workers, lack of recognition and lack of opportunities for job enhancement were significant stressors rated on the Emergency Worker Stress Inventory (EWSI).

It was evident, from the thematic analysis, that stressors were occurring at all levels of the organisational ecosystem (the Mircosystem, the Mesosystem, the Exosystem and the Macrosystem) (Carrol & White, 1982) since reference was made to stressors occurring at an Individual, Organisational and Extra-organisational or societal level. However, the majority of stressors were found to occur at the individual or Microsystem level (*69% of stressors endorsed*). The only ecosystemic factor, evident from the analysis was Boundary Issues (Carrol & White, 1982). Paramedics in the current study noted the presence of a bureaucratic style of management,

indicating the presence of rigid organisational boundaries. Rigid boundaries have been found to impair communication between and within departments and cause employee isolation and cynicism.

5.4 Burnout

The reported burnout levels in the current study were consistent with the normative values for doctors/health care workers (Maslach & Leiter, 1996). The findings of the current study support those obtained by Naudé and Rothmann (2006) in their study assessing the work-related well-being in emergency workers. Peltzer *et al.* (2003) found moderate Emotional Exhaustion and Depersonalisation in a sample of 402 medical practioners in South Africa, which were consistent with the findings in the current study. However, lower Personal Accomplishment scores (M=17.4; SD=6.8) were reported by Peltzer *et al.* (2003).

In comparison to findings by Rothmann, Jackson and Kruger (2003), Storm and Rothmann (2003b) and Wiese *et al.* (2003) the Emotional Exhaustion reported in current study was marginally higher (M=21.52; SD= 12.02 in comparison to M=11.92; SD=7.77, M=11.41; SD= 8.02 and M=12.85; SD=8.33). However, the Personal Accomplishment scores obtained in the current study were also marginally higher (M=36.71; SD=7.95) than those obtained in the same three studies (M=28.34; SD= 6.42, M=26.67; SD=7.92 and M=28.21; SD=7.07). This indicated that whilst the participants in the current study were experiencing more symptoms of Emotional Exhaustion, they evidenced an increased sense of Personal Accomplishment. Evidently, Personal Accomplishment may compensate for an increase in symptoms of Emotional Exhaustion.

Paramedics and nurses are often grouped into the same employee category, according to remuneration and job status. However, the burnout levels obtained in this study were substantially different from those obtained by Levert *et al.* (2000), who found consistently high levels of burnout on all three dimensions in a sample of psychiatric nurses. Heyns *et al.* (2003) assessed burnout in nurses who were employed at both private and government hospitals and found Emotional Exhaustion and Personal Accomplishment scores that were consistent with those obtained in the current study.

Despite stressors reported by the paramedics in the current study, as a group, they were found to be suffering from Moderate levels of burnout. Several hypotheses were drawn from this finding:

- Beaton *et al.* (1999) investigated coping styles within emergency worker groups. They argued that emergency workers are a self-selected occupational group and may not be representative of the general population in terms of personality type and innate coping resources (Beaton *et al.*, 1999). The paramedics sampled in the current study may posses innate coping abilities, which, consciously or unconsciously, lead them, seek out a highly stressful occupation.
- The Personal Accomplishment scores obtained in the current study were marginally higher than those obtained in other South African studies discussed (Heyns *et al.*, 2003; Levert *et al.*, 2000; Naudé & Rothmann, 2006; Rothmann *et al.*, 2003; Storm & Rothmann, 2003b & Wiese *et al.*, 2003) indicating that this group may derive an enhanced sense of accomplishment from their work.
- The participants reported Case-related stressors as particularly stressful events indicating that, at the time of completing the questionnaire, they did not exhibit an impersonal and callous response towards their patients, which is typical with regards to Depersonalisation.
- The participants utilise support systems that are adequate.

5.4.1 Gender

The results of this study revealed no differences in Emotional Exhaustion, Depersonalisation and Personal Accomplishment between men and women which is consistent with findings by Maslach (1982), but contrary to Klarreich (1988), Peltzer *et al.* (2003) and Maslach *et al.* (1996). Klarreich (1988) found that women are more prone to burnout than men, since they are more likely to hold unrealistically high expectations of themselves and their employers. Evidently, the female paramedics in the current study are likely to have a realistic view of their employers and their own abilities. Peltzer *et al.* (2003) reported higher levels of Emotional Exhaustion in women and higher Personal Accomplishment in men while Maslach *et al.* (1996) found slightly higher Emotional Exhaustion in women and marginally higher levels of Depersonalisation and Personal Accomplishment in men.

5.4.2 Age

Maslach *et al.* (1996) and Klarreich (1988) found a higher prevalence of burnout in younger employees, as opposed to older employees, since younger employees are less career mature. In present study, there was no global difference in burnout between younger and older employees. However, those individuals falling within the specific 36-40 year category enjoyed an enhanced sense of Personal Accomplishment in comparison with the employees in other age groups. It is, therefore, probable that those employees in the 36-40 age group may derive greater sense of community from their work and are better able to cope with the physical and emotional demands of the job than those falling within other age groups since enhanced Personal Accomplishment is associated with greater efficacy, competence, productivity and achievement (Maslach *et al.*, 1996; Rothmann *et al.*, 2003). In addition, individuals in this age group are likely to be satisfied with their remuneration and job/support resources and are better able to exert control over their working environment (Maslach *et al.*, 1996; Maslach & Leiter, 1997 & Maslach, 2003).

5.4.3 Race

Golembieski *et al.* (1996) (as cited in Schaufeli, 2003) concluded that "burnout seems to be generic" (p. 6). Peltzer *et al.* (2003) found higher levels of Depersonalisation in White doctors than among doctors of colour. Although Schaufeli (2003) cautions against the use of eurocentric instruments in multi-cultural and/or developing countries, Storm and Rothmann (2003b) utilised the *Maslach Burnout Inventory-General Survey* (MBI-GS) to measure burnout within the SAPS and found that three burnout factors were equivalent for Black, White, Coloured and Indian participants (Storm & Rothmann, 2003b). They concluded that the same constructs of burnout were measured for across four South African Race groups (*ibid*). This was consistent with the findings obtained in the current study since there were no differences in burnout across the Black, White, Coloured or Asian/Indian participants.

5.4.4 Marital Status

No differences in burnout were found with regards to marital status in the current study. This was contrary to findings by Maslach *et al.* (1996), Klarreich (1988) and Peltzer *et al.* (2003) who found that single or divorced individuals are more at risk of burnout than married

employees. Klarreich (1998) did, however, emphasise that marriage did not prevent burnout, as appeared to be the finding in this study.

5.4.5 Job Experience

Hytten and Hasle (1989) (as cited in Beaton *et al.*, 1999) found that an increase in the number of years service within the emergency care profession may contribute to the development of more effective coping strategies, allowing paramedics to better cope with the demands of work. Peltzer *et al.* (2006) found that an increase in length of service was inversely related to Depersonalisation and was positively associated with Personal Accomplishment in doctors. However, no differences in job experience and the burnout were found in the current study, which supports findings by Heyns *et al.* (2003). Job experience was not a predictor of burnout within this group of paramedics.

5.5. Sense of Coherence

The Sense of Coherence data in the current study were fairly consistent with the majority of South African Sense of Coherence studies (Heyns *et al.*, 2003; Roothman *et al.*, 2003; Rothmann *et al.*, 2003 & Wissing & van Eeden, 2002), as well as representative of Antonovsky's (1987) original Sense of Coherence data. The reported Sense of Coherence in the current study was normative or average to strong. Several discrepancies were noted with regards to studies by Levert *et al.* (2000), Ortlepp and Friedman (2001) and Naudé and Rothmann (2006). Levert *et al.* (2000) found average to weak Sense of Coherence within a sample of psychiatric nurses on the SOC-13. Ortlepp and Friedman (2001) found moderately higher Sense of Coherence in a sample of non-professional trauma counsellors. In comparison with these two studies, the current study obtained moderate results; the findings are more consistent with the later study.

Sense of Coherence, within the current sample of paramedics, was shown to be significantly higher than the Sense of Coherence measured within a sample of Gauteng emergency workers with Naudé and Rothmann (2006) reporting a weak Sense of Coherence among emergency workers (M=48. 33; SD=8.71). Various interpretations of this discrepancy included the following:

- Naudé and Rothmann's (2006) sample consisted of fire-fighters, emergency staff, ambulance drivers and paramedics, whilst the sample in the current study consisted of

paramedics and ambulance drivers. Differences in Sense of Coherence may exist within the larger emergency worker category.

- The participants sampled by Naudé and Rothmann (2006) worked in the Gauteng government sector, whilst in the current study, the participants were employed in the private sector in the eThekwini area. Extraneous differences in work environment and/or working conditions, i.e. type of cases, prevalence of crime, level of remuneration and resources, may serve as SOC-enhancing or SOC-debilitating factors. For example, private sector employees may receive more remuneration for services rendered and may have access to more and/or better quality resources than government employees. Remuneration and job resources are Generalised Resistance Resources (GRRs), which may promote the development of a strong Sense of Coherence (Rothmann *et al.*, 2003).
- In addition, the paramedics in the current study indicated that they have access to personal support networks which may serve as additional GRR's.

5.5.1 Gender

No significant differences in Sense of Coherence between male and female paramedics were found in the current study. This was consistent with findings by Roothman *et al.* (2003), who found no gender differences in Sense of Coherence in a multi-cultural sample of South Africans. This indicated that those factors identified by Wissing and van Eeden (2002) and Heiman (2004), including sensitivity to social and environmental change and inequality and discrimination in the workplace, may not be present and/or have not had an impact on the development of Sense of Coherence within the current group of paramedics.

5.5.2 Age

Antonovsky (1987) hypothesised that by early adulthood, individuals are thought to have developed a tentative Sense of Coherence and that Sense of Coherence becomes relatively stable by the age of 30 years. There were no differences in Sense of Coherence in the current study even though the paramedics ranged in age from 18 years to 46+ years of age. This finding indicated that Sense of Coherence may become crystallised in early adulthood (18-25 years), as opposed to adulthood (30+ years), within this group of paramedics.

5.5.3 Race

Levert *et al.* (2003) suggested that Sense of Coherence is a universally meaningful construct that cuts across lines of gender, class structure and culture and Feldt *et al.* (2004) noted that environmental and cultural factors do not have a direct influence on the development of Sense of Coherence. Wissing and van Eeden (2002), however, found that the internal consistency of the OLQ seemed to be higher for the White race group as opposed to the Black participants and noted differences in Sense of Coherence between White and Black participants. Antonovsky (1979) (as cited in Wissing & van Eeden, 2002) was of the opinion that GRRs are lower in historically disadvantaged communities, making disadvantaged individuals more prone to stress and less likely to develop a stronger Sense of Coherence. In the current study, no differences in Sense of Coherence were found between the four race groups indicating that environmental or cultural/race factors did not have a significant impact on the development of Sense of Coherence within this paramedic group.

5.5.4 Marital Status

Antonovsky (1987) suggested that marriage is a GRR that re-enforces a sense of consistency within ones' life. However, he did not commit himself to any associations between Sense of Coherence and marital status. Indeed, the current study revealed no differences in Sense of Coherence between married, single and divorced/separated participants.

5.6 Sense of Coherence and Burnout

The current study evidenced associations between Sense of Coherence and all burnout dimensions; Sense of Coherence was negatively correlated with both Emotional Exhaustion and Depersonalisation and positively correlated with Personal Accomplishment. Current findings supported those by Heyns *et al.* (2003) and Naudé and Rothmann (2006). Evidently, paramedics sampled in this study, who possessed a strong Sense of Coherence, were likely to experience lower levels of burnout. In addition, the presence of psychofortigenic factors (i.e. Sense of Coherence) may facilitate coping and/ or enhance feelings of Personal Accomplishment within this group.

Correlations in the current study partially supported findings by Rothmann *et al.* (2003) who found that Emotional Exhaustion (MBI-GS) was negatively correlated with Sense of

Coherence in 270 government employees. Levert *et al.* (2000) found significant correlations between Sense of Coherence (SOC-13) and both Emotional Exhaustion and Depersonalisation in 94 psychiatric nurses.

The moderating effect of Sense of Coherence on burnout was not assessed in the current study since there was no third variable for comparison. This is a departure from existing studies on Sense of Coherence and burnout (Levert *et al.*, 2000; Naudé & Rothmann, 2006 & Rothmann *et al.*, 2003). Levert *et al.* (2000) found that Sense of Coherence exerted strong main effects on the variance of indicators of secondary traumatic stress in a sample of 130 South African non-professional trauma counsellors while Naudé and Rothmann (2006) the found that Sense of Coherence had a main effect on the dimensions of burnout but did not interact with occupational stress. Findings by these authors support Antonovksy's theory (1987) that Sense of Coherence is a global predisposition which mitigates life stressors and influences overall behaviour, as opposed to a specific coping variable.

Multiple regression analyses in the current study revealed that the best predictor of Emotional Exhaustion was Depersonalisation. Therefore, a paramedic who suffers from Emotional Exhaustion is likely to suffer from Depersonalisation and vice versa. Sense of Coherence was found to predict a decrease in Emotional Exhaustion, but to a lesser degree than Depersonalisation would predict the increase in Emotional Exhaustion. Depersonalisation predicted Emotional Exhaustion. A strong Sense of Coherence predicted enhanced Personal Accomplishment within this group.

Naudé and Rothmann (2006) found that Sense of Coherence predicted a decline in Emotional Exhaustion and Depersonalisation and an increase in Personal Accomplishment and Work Engagement. One notable difference in the current study would be the poor predictive value of Sense of Coherence with regards to Depersonalisation. Depersonalisation has been defined as a callous and impersonal response to recipients. It was noted that this group of paramedics may not be experiencing symptoms of severe Depersonalisation since they cited Individual stressors, typically those Case-related stressors involving heightened emotional interaction with patients, as particularly stressful. Taking this into consideration the paramedics in the current study may be experiencing less Depersonalisation, qualitatively, than was recorded on the quantitative instrument, namely the MBI-HSS. In addition, this finding suggests that Sense of Coherence may not have a main effect on the development and/or hindrance of

Depersonalisation; an individual may have a strong Sense of Coherence whilst remaining susceptible to Depersonalisation.

Other inferences drawn from the regression analyses pertain to the Personal Accomplishment dimension of burnout. Evidence suggests a predicative relationship between Emotional Exhaustion and Depersonalisation. However, regression analyses revealed no significant relationship between Personal Accomplishment and both Emotional Exhaustion and Depersonalisation. The reported Emotional Exhaustion and Depersonalisation in the current study appeared to be more susceptible to variability since descriptive statistics showed large standard deviations in the scores relative to the mean of each variable. It can be concluded that symptoms of Emotional Exhaustion and Depersonalisation are susceptible to change and/or extremes (i.e. participants endorsed very few symptoms while others endorsed all symptoms, in their greatest severity). Personal Accomplishment and Sense of Coherence, on the other had, remained constant, predictable and less susceptible to extremes. Overall findings of the current study suggested that Personal Accomplishment may be closely aligned with salutogenic/ psychofortigenic constructs, such as Sense of Coherence and Work Engagement, as opposed to representing the anti-thesis of Depersonalisation and Emotional Exhaustion on a spectrum of burnout. Further investigation into the relationship between Personal Accomplishment, Sense of Coherence and Work Engagement is warranted (Strűmpfer, 2003; 2005).

5.7 Conclusion

Chapter Five compared the findings of the current study with prior research in the area of stress, burnout and coping. The majority of the stressors experienced by this group of paramedics were Individual stressors as opposed to Organisational or Extra-organisational stressors, which was a departure from existing research. No significant demographic findings were noted, with the exception of age and Personal Accomplishment in a specific age group (36-40 years). The lack of demographic differences in either Sense of Coherence or burnout is not consistent with the majority of studies conducted in these areas. Correlation analyses evidenced relationships between and among Sense of Coherence and burnout, although regression analyses indicated that there were unique findings with regards to Depersonalisation and Personal Accomplishment.

Chapter Six: Conclusion and Recommendations

6.1 Conclusion

The aim of the current study was to investigate the stressors, burnout and coping, using a survey design in a sample of 56 eThekwini-based paramedics. Despite study limitations, cited in the Chapter One (i.e. the sample size, sample characteristics, the data collection period and the availability of work-related resources), this study indicated that majority of stressors experienced by the paramedics were *Individual stressors* and that this group utilised an informal support network, consisting mainly of *Colleagues* and *Spouses/Family* members.

There were no significant demographic differences (e.g. gender, race, marital status or job experience) in either Sense of Coherence or burnout within this group, with the exception of an enhanced sense of Personal Accomplishment in the 36-40 age group. This indicated that both Sense of Coherence and burnout construct were successfully applied within this group and gender, race, marital status did not influence the development of either Sense of Coherence or burnout symptoms within this group. In addition, this further supports the applicability of these constructs within the South African context.

The reported Sense of Coherence for the current study was fairly consistent with other studies, while the reported levels of Emotional Exhaustion and Personal Accomplishment were marginally elevated in comparison to existing South African studies (Rothmann *et al.*, 2003; Storm & Rothmann, 2003b & Wiese *et al.*, 2003). Since Emotional Exhaustion and Personal Accomplishment were inversely related, the elevated Personal Accomplishment may have mediated Emotional Exhaustion within this group of paramedics.

There were significant relationships between the burnout variables and Sense of Coherence. The predicative value of the relationships was investigated via regression analyses. Depersonalisation was the best predictor of Emotional Exhaustion and vice versa, while the presence of an enhanced Sense of Coherence predicted a decline in Emotional Exhaustion and an increase in Personal Accomplishment. Since Sense of Coherence can be regarded as a meaning-providing variable, paramedics with a strong Sense of Coherence are likely experience less Emotional Exhaustion at work and derive an enhanced sense of Personal Accomplishment from their work as they are predisposed to perceive their working environment as making cognitive sense (Comprehensibility) and being relevant and meaningful (Meaningfulness). In addition,

those paramedics who posses a strong Sense of Coherence are less likely to experience burnout symptoms since they may believe that they have sufficient resources to cope with the demands of the profession (Manageability).

Paramedics, as an occupational group, were specifically selected for this study because of the intense emotional, mental and physical job demands associated with the emergency work profession. The overall impression was that the results obtained in the current study were moderate, average or seemingly unremarkable. However, taking cognisance of the risk factors and stressors, cited in the qualitative findings, these results hold significance within this profession. Overall, this group managed to remain well and cope with the demands of the job, albeit at a normal or average level. With this in mind, the findings were remarkable, when the alternative was likely to be cynical employees who experience severe symptoms of burnout.

6.2 Recommendations

The current study has implications for both research and programme development. Directions for future research is grounded in existing theory but may be implemented at a more practical level by an organisations' human resources department.

Several recommendations are posed in response to the limitations observed in the current study. It is recommended that data be collected from a larger sample (i.e. N<56), comprising of paramedics based throughout KwaZulu-Natal and/or nationwide. In the current study, the two phases of data collection may have skewed the results obtained. Therefore, it is recommended that in future studies, data should be collected in a longitudinal manner or during one planned time period within the year so as minimise inconsistent reporting of stressors and burnout.

Further research into the specific relationship between Personal Accomplishment, Sense of Coherence and Job Engagement is indicated. In addition, comparisons between private and government working conditions, with a focus on burnout-prevention and/or Sense of Coherence-enhancing factors, warrant further exploration. Although Naudé and Rothmann (2006) conducted a study of work-related well-being in emergency workers, further research regarding paramedics/ambulance drivers, as a separate occupational group, is recommended.

The paramedics sampled for the current study were employed at a private emergency care organisation indicating that they may have access to more and/or better quality resources (e.g.

Generalised Resistance Resources including increased remuneration, better quality equipment and counselling) than those employed in the government sector.

Employee burnout is a potential economic loss for organisations since it associated with absenteeism, job turnover, poor performance and loss of productivity and efficiency (Schaufeli, 2003). Employee development programmes, with a focus on the promotion of salutogenic factors, may greatly reduce costs associated with high employee turnover, a loss in productivity and poor service delivery. It is recommended that management and/or human resources consider a means of creating a working environment conducive to the development of Sense of Coherence and the prevention of burnout (Rabin *et al.*, 2005).

Several employee wellness recommendations include:

- Reviewing the company's incentive programme and ensuring that staff are sufficiently rewarded for their efforts at work. This may promote Personal Accomplishment and Meaningfulness within the organisation;
- Implementing an employee suggestion scheme and invite employees to participate in the forward planning and/or organisational decision-making. This may help employees develop a sense of autonomy and ultimately prevent Emotional Exhaustion and Cynicism in employees;
- Debriefing sessions should be conducted on a needs basis. Sessions may be formally lead by counsellors but informal (staff only) groups are an option. This intervention may prevent the development of secondary trauma symptoms and promote the development of Sense of Coherence by providing employees with additional GRRs;
- Staff should be trained in the most current procedures. This action would promote Comprehensibility, Manageability and Personal Accomplishment within this group;
- An informal reward system should be introduced. This may include awards ceremonies and/or company sponsored casual get-togethers. This may serve to decrease Emotional Exhaustion and promote a sense of Meaningfulness within the profession;
- Brief employee wellness workshops and presentations should be conducted. Workshops focus may a focus on educating employees about the signs and symptoms of burnout, as well as introducing self-assessment strategies, stress management techniques, cognitive

behavioural strategies, time management exercises and activities that enhance effective peer support (i.e. team building and diversity workshops).

- Existing counselling services should take cognisance of the individual concerns regarding seeking help from a professional service. Specific concerns that may need to be addressed include issues of confidentiality and consent, stigma associated with seeking help, the availability and scope of the contract services, the nature of employee evaluation by counselling services and the professional implications of seeking counselling.

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Appendix 1

Dear Participant

Study information, participation details and consent

The information presented in this 'pack' pertains to a proposed study concerning on-the-job stress. The study is conducted in partial fulfilment of a Masters Degree in Psychology at the University of KwaZulu-Natal (Howard College).

The aim of this study is to identify the factors that impact on your well being, that are associated with your profession.

By completing the forms in this 'pack', you will be making a valuable contribution to research pertinent to your field of occupation. As this study is for degree purposes, there will be no payment for participation, but I would appreciate your participation.

The pack consists of a consent and biographical form and two scales; The Orientation to Life Scale (29 Questions) and The MBI (22 Questions). Please read all instructions before completing the scales. It should take you approximately 25-35 minutes to complete all components of the pack. Once completed, place the forms into the envelope provided and seal the envelope. Please give the envelope to your manager or to myself, should I be present at the time.

The forms you have received are coded; therefore your response is anonymous. Information will only be used for the purposes of research and will not, in any way, prejudice you as an employee.

Although you may be requested to complete the forms by your manager, your participation is voluntary. You have the right to withdraw your consent at any time during the research process, without offering a reason or suffering prejudice. Should you find the data collection process upsetting, please contact me (082 [redacted], [redacted]@ukzn.ac.za) to discuss the appropriate support and counselling facilities available to you. **Please retain this letter as a reference**. Alternatively, you may contact my project supervisor, Prof. R. Le Roux (031-260 [redacted]), if you have any further queries.

Yours Sincerely,

Miss Lisa Grant-Stuart
Project Researcher (M1 Psychology Student)
School of Psychology (UKZN)

Prof. Rod Le Roux
Project Supervisor (Industrial Psychologist)
School of Psychology (UKZN)

Appendix 2

I, _____ (signature only), hereby give my consent to participate in research. I am aware that my response anonymous and my participation is voluntary. I have been advised to seek counselling should I find the data collection process upsetting. I have been informed of my right to decline to participate. Should I wish to withdraw my consent, I will contact the researcher (Lisa) on 082 7674934.

A. BIOGRAPHICAL INFORMATION

□ 18-25 years old □ 26- 30 years old
□ 31-35 years old □ 36-40 years old
□ 41-45 years old □ 46 and older
□ Female □ Male
□ Single □ Married □ Separated □ Divorced □ Widowed
Race (for research purposes only) : _____ Home Language: _____

B. OCCUPATIONAL INFORMATION

Number of years work experience:

□ 0-3 years experience □ 4-6 years experience
□ 7-9 years experience □ 10 years and more

In your experience, what kind of work-related incident would you find particularly stressful?

_____
_____
_____
_____
_____
_____
_____

In the event that you were exposed to a particularly stressful experience at work, who are you most likely to discuss the event with? (Please select only ONE option)

□ Doctor □ Religious Leader
□ Counsellor/Psychologist □ Colleague
□ Spouse/Partner □ Friend
□ Family Member □ Other (Please specify): _____